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The Journal of the Fire Protection Profession

MARCH 19, 1930

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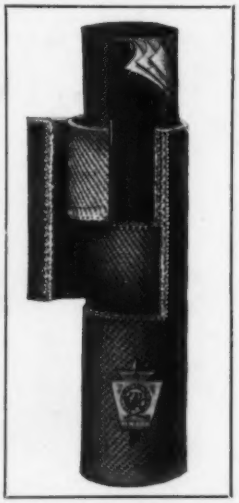

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The Publishers

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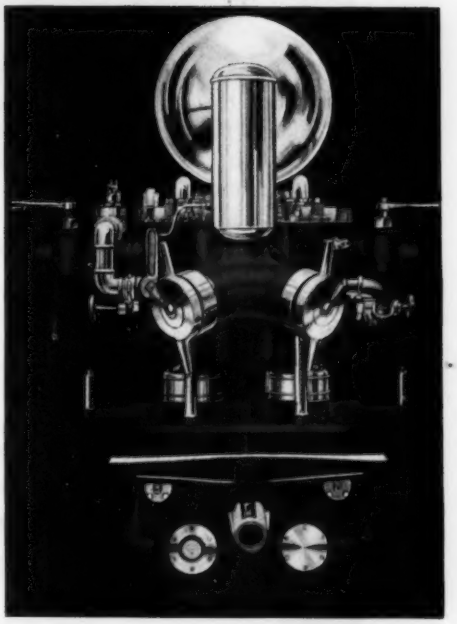

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The Journal of the Fire Protection Profession

VOLUME LXXXIII MARCH 19, 1930 NUMBER 6

When May Firemen be Discharged or Reinstated Under Civil Service?

Some Important Decisions of Higher Courts on This Subject —Other Legal Matters of Interest to Fire Departments

By LEO T. PARKER, Attorney-at-Law

FREQUENTLY the power of removal or suspension of municipal officers and employes is given to the council or governing legislative body. Also, in the absence of law vesting such power elsewhere, it rests with this agency. And under a usual charter providing that "all the corporate powers of the corporation shall be exercised by the council," the power of removal of officers and employes for misconduct, which under the common law is vested in the corporation, is by such provision conferred upon the council.

For illustration, in State vs. Superior Court, 279 Pac. 601, it was disclosed that a city council passed a resolution requiring a city employe to show cause why he should not be removed from office. Believing that the city council was acting without authority in determining the question of his removal the employe appealed to the Court. The city charter provided:

"All power of the city, unless otherwise provided in this charter, shall be exercised by, through, and under the direction of five commissioners, who shall constitute the council, and one of whom shall be the mayor."

The Court held the council entitled to discharge the employe, and quoted:

"Our conclusion, therefore, is . . . that either the power of removal or suspension may be exercised within reasonable bounds by the mayor and council, as the governing body of the municipality, but that neither power can be exercised by an individual or inferior board unless it is expressly conferred."

Discharge Held Invalid

Generally speaking, firemen who are discharged without compliance with the law may demand and obtain reinstatement.

For instance, in Schroeder vs. State, 167 N. E. 484, it was disclosed that a city charter provides:

"For open competitive examinations in the competitive class, and for the creation of eligible lists upon which shall be entered the names of successful candidates in the order of their standing in such examination or tests."

It also provides:

"No person in the classified service shall be discharged or reduced except for incompetency, inefficiency, misconduct, neglet of duty, immorality, excessive use of intoxicants, or for such cause as will promote the efficiency of the service, and only after the person to be discharged or reduced has been presented with the reasons for such discharge or reduction, specifically stated in writing, and has been given an opportunity to be heard in his own defense."

Prior to January 1 certain firemen had been in the employ of the city in positions within the competitive class of the classified service. The positions then held by them were for periods of time ranging from 1½ to 12 years.

On January 1st, the firemen were notified in writing of their dismissal from "the city service," the notice stating that "this dismissal is for the good of the service."

Suit was filed requesting the Court to order reinstatement of the men thus discharged. In holding the discharge void and ordering the reinstatement, the Court said:

"Nothing is to be gained by comment upon the benefit and advantage to the public of an impartial and disinterested administration of the civil service laws. Everyone sufficiently interested in public affairs to inform himself of their object and purpose knows what was intended to be accomplished thereby, and knows also to what extent they are enforced and observed. It may be said that it was not intended thereby that, through failure of those charged with the duty of establishing eligible lists to perform that duty, employes appointed today might be summarily discharged tomorrow for no better reason than that others than they were temporarily desired. Such a situation would induce a condition of subserviency to partisan exigencies not conducive to efficient service. . . . It would seem that the common sense construction to be given . . . would be that employes appointed thereunder, unless lawfully removed for cause after due notice and hearing, as provided by the charter, are secure in their positions until such eligible list is established and their successors appointed therefrom."

Court Upholds Fireman's Discharge for Drunkenness

On the other hand, higher Courts will not reverse decisions rendered by public officials or lower Courts on mere technicalities, particularly where the decision appears to be justifiable.

For example, in State vs. Wells, 167 N. E. 362, it was disclosed that a fireman had been a member of the fire department of Zanesville for several years. The chief of the fire department discharged him from the service and notified the director of public safety that he had dismissed the fireman on account of

"It may be said that it was not intended that, through failure of those charged with the duty of establishing eligible lists to perform that duty, employees appointed today might be summarily discharged tomorrow for no better reason than that others than they were temporarily desired. Such a situation would induce a condition of subserviency to partisan exigencies not conducive to efficient service."

drunkenness. The safety director fixed a time for the hearing of the charges and notified the fireman to be present and furnish such explanation or refutation as he thought proper. A hearing was had before the safety director, and upon evidence submitted the safety director sustained the charge and the order of dismissal.

The fireman filed suit asking the Court to order his reinstatement on the contention that drunkenness is not one of the grounds named in the charter upon which he could rightfully be discharged but that habitual drunkenness is clearly specified.

It is interesting to observe that the higher Court refused to order the reinstatement, saying:

"There is nothing in the record to indicate in any manner that the municipal officials were acting in bad faith, or with any motive other than a desire to promote the welfare of the public, in taking the course they had pursued with respect to the discharge of the fireman."

Civil Service Employe Not Entitled to Reinstatement

Civil service laws are interpreted by the Courts in view of the circumstances surrounding a complaint made by a municipal employe to the effect that the city officials will not order his reinstatement.

For example, in Fernandez vs. Mayor of City of New Bedford, 169 N. E. 438, it was disclosed that a city adopted a civil service rule, as follows:

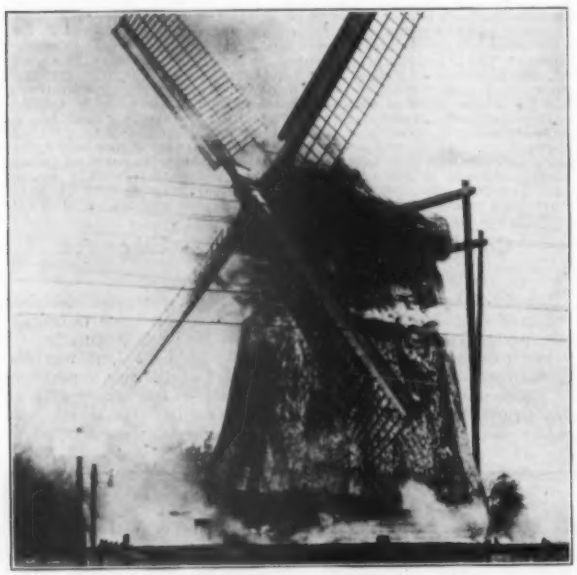
"Whenever a person in the Official Service is unable to work on account of sickness . . . the name of such person shall be placed . . . on a Special List, if the applicant so requests in writing, and his name shall remain on such Special List for a period of two years from the date of such separation. . . . Thereafter, on requisition to fill any position, which . . . can be filled from such Special List, the Commissioner, before certifying from the regular eligible list, may certify from the Special List the names of persons then standing thereon in the order of the dates of their original appointment, and appointment shall be made from the names so certified."

A city employe who was seriously injured while attending to his regular duties requested reappointment when after six years he had recovered his health on the grounds that he had not received a written notice informing him of his discharge or removal and setting forth the reasons therefor.

However, during the six years he was unemployed he was paid the maximum amount of $4,000 allowed for permanent disability. Therefore, the Court held that the employe, because of his continued incapacity and by the payment of compensation for total disability in the maximum sum provided by law, has brought about a separation from his employment and service, which same fully concludes his connection therewith, and no further duty or obligation is imposed upon any person to give him any written notice under the law.

The Court said:

"The rules of the civil service have the force of law. . . . The petitioner (employe) was not entitled to reinstatement before he should make request in writing to be placed 'on a Special List,' or after such request before he was certified from such 'Special List' by the commissioner."



Windmill Burns Even With Water Near

Windmills are becoming more and more out of the fashion in the picturesque country of Holland. However, here is one that was destroyed by fire, even though there was a water stream nearby. If pumping stations in this country can burn, why not windmills

Violating Parking Ordinance Not Conclusive Negligence

Since numerous fire department officials are interested in knowing the legal status of parking ordinances and regulations and the liability of persons who violate such laws, resulting in wrecking of fire engines and injuries to firemen, the recent higher Court case of Falk v. Finkelman, 168 N. E. 89, presents unusually important legal information.

In this case an automobile owner violated a city ordinance and parked his car in such a position that a fire truck collided with it causing the driver to lose control resulting in the truck colliding with another fire truck and seriously injuring a pedestrian and several firemen, who filed suit against the automobile owner to recover damages.

It was contended that since the automobile owner parked his car in violation to a city ordinance this fact alone resulted in his liability. However, the Court refused to hold the automobile owner liable, stating important law as follows:

"It is settled that a violation of a penal law ordinance or by-law at the time of an accident by one connected with it is evidence of his negligence, but not conclusive. . . . Upon the facts disclosed by the record it is obvious the defendant's (automobile owner's) violation of the ordinance was not an effective and contributing cause of the injury unless in accordance with the usual experience of mankind the result of that violation of law ought to have been foreseen and apprehended. One is bound to anticipate and provide against what usually happens and what is likely to happen, but is not bound in like manner to guard against what is unusual and unlikely to happen, or what, as is sometimes said, is only remotely and slightly probable. . . . Tried by this test the defendant (automobile owner) should not be held to have been negligent in not anticipating that an alarm of fire in the vicinity would bring the fire apparatus upon Shirley avenue, and that in passing the car the driver of one engine would lose control of his engine and collide with another. . . . The unlawful occupation of the street by the defendant's car was simply a condition and not a contributing cause of the accident."

Fire Protection Ordinance Is Valid

Generally speaking, any ordinance is valid and enforceable which is intended to protect the health of the population or safeguard property against fire losses. For instance, in Soon Hing vs. Crowley, 113 U. S. 703, the Court was called on to consider the validity of an ordinance which provided that no one working in a laundry within certain prescribed limits of the city should wash or iron clothes between 10 P. M. and 6 A. M. or on Sunday.

The prescribed limit included a section of the city in which the wooden buildings presented a fire hazard. The Court held the ordinance valid and explained that the section of the city in question consisted mainly of wooden buildings, and that because of the continuous use of fire in laundries, the ordinance seemed to be a reasonable regulation made in the exercise of the city's police power.

Also, in Ex Parte Moyner, 2 Pac. 728, an ordinance was before the Court for interpretation which provided that within certain limits of the city, no laundry might be conducted without a certificate from the health officer approving the drainage facilities and another certificate from the fire marshal as to the condition of the heating appliances. The Court held this law valid and enforceable, saying:

"It is true, all persons may acquire, possess, and protect property, and may pursue and obtain safety and happiness; but these rights must be exercised with reference to the rights of others. . . . We cannot say that proper drainage in carrying on the laundry business is not necessary to health; neither can we say that property is secure from fire if proper precautions are not taken. The order is not discriminating and special in any such sense as to make it repugnant to the constitution. Its terms apply to all persons establishing, maintaining, or carrying on the business of a public laundry or public wash-house, where articles are cleansed for hire, within certain limits."

In still another case, San Laundry, 105 Pac. 609, a city ordinance provided that "it shall be unlawful for any person to establish, maintain, operate or carry on a laundry within the corporate limits of the city in any building, or any portion thereof that shall be occupied or used either directly

(*Continued on page 257*)

Can Lumber Be Made Fire Resistant?

Several Lumber Manufacturers Are Now Turning Out Planks and Trim Treated to Resist Fire Hazard—Description of Process

By RAYMOND W. STORM, George H. Storm & Co., New York*

As early as the first century A.D., the Romans, under Emperor Augustus, recognized the value of fire-resistant wood and employed a coating of alumina and acetic acid (clay and vinegar) which was plastered on over wooden building members, much as we might today enclose with Kalamein metal or encase our steel structures with concrete. This coating actually provided a fair amount of fire resistance, although of course impractical from the modern viewpoint. Thereafter, up through the Middle Ages, the absence of historical data indicates that "fireproof" wood seems to have been almost entirely neglected, although in 1841 Dr. Pyne, an Englishman, patented a sodium-tungstate treatment.

Attesting the more recent interest in "fireproof" wood, there are to be found in the United States Patent Office hundreds of patents, domestic and foreign, covering principally solutions of salts in myriads of combinations—ammonium chloride, phosphate and sulphate predominating. A generation ago in New York City there existed a wood-treating plant which actually produced lumber which, from the standpoint of comparative fire resistance at least, was admirable. In the past decade, in fact, several plants have been established in the United States for the "fireproof" treatment of lumber, and apparently most of these plants have been moderately successful.

Due to excessively high costs, limited production, and especially the delinquent nature of the chemicals used, the use of "fireproof" wood has been limited and it is not widely known. Some cases are reported where the treated lumber, being extremely hygroscopic, has attracted moisture to such an extent that globules of water (or solution) formed on the surface, causing leaching, and gradually by capillary attraction and evaporation removing some of the chemicals from the wood. In other instances, during periods of great humidity, varnished or painted woodwork has been known to have been damaged by the efflorescence of the salts. This affinity for moisture has, in fact, been the greatest stumbling block in the way of previous large development, and quite naturally it has in some quarters prejudiced people against "fireproof" wood.

When used in dry places, however, this material has generally been satisfactory. In fact, one great good has been developed from these early treatments—it has been definitely shown that "fireproof" wood once dry and kept dry could be counted upon to retain its effectivity. Numerous examples of this are to be found.

It is apparent that while considerable progress in the field of "fireproof" wood had been made by the pioneers, there remained, nevertheless, many problems in the creation of new formulas and processes and in the establishment of the product on a sound, scientific and commercial basis.

Scaffolding on New York City Church Constructed of Pipe Uprights and Firesafe Treated Lumber

Firesafe Trademark and Formulas

"Fireproof" wood is of course a misnomer, even an impossibility, nothing in nature being completely fireproof. Therefore, at the very outset a more exact title was found necessary, and the word "Firesafe" coined. The word "fireproof" is often used without a just foundation.

The chemicals used, while covered by a long chain of process patents, some of which have only recently been applied for, naturally cannot be divulged. It may be stated, however, that these chemicals are of several different groups—some that break up at low temperatures (200 to 1,500 deg. Fahr.), some at medium temperatures (1,200 to 3,000 deg. Fahr.), and some at the highest temperatures found in burning buildings (2,000 to 6,000 deg. Fahr.).

Function of Chemicals

These chemicals function in different ways: by giving off a non-inflammable, fire-extinguishing gas, by fusing over the surface of the wood in a protective coating, and by obstructing the pores of the wood and excluding the oxygen necessary to combustion.

All chemicals are dissolved in warm water in proportions established by exhaustive tests. To each gallon of solution is added a small amount of firesafe "dope," a paste made in our laboratories having a strong catalytic and lubricating effect. It is largely this "dope" which makes firesafe lumber so easy to handle in subsequent milling operations, although the careful filtration of the solutions also helps materially, as thereby much insoluble matter is removed which would later deposit on the surface of the lumber, causing abrasion. This simplifies later operations in carpentry.

As previously remarked, the most important characteristic of a fireproofing formula is its comparative affinity for moisture, it being safe to assume that all chemicals used in fireproofing are in some degree deliquescent. Firesafe formulas are not offenders in this respect, and the treated wood may be relied upon not to exude chemicals in damp weather, it being practically non-hygroscopic. Lumber stored in open sheds by the East River has shown no dampness 99 per cent of the time, and only at the end of long periods of rain has it showed any surface moisture at all, and that very slight and unimportant.

*Abstract of paper presented at meeting of Wood Industries Division of the American Society of Mechanical Engineers, Metropolitan Section.

Generally known as the "full-cell" process, the routine of the treatment is essentially as follows:

The lumber to be treated is locked in an air-tight retort or cylinder from which the air is evacuated, reaching gradually a vacuum corresponding to about 29 inches of mercury. This vacuum removes from the cells of the wood most of the air and some of the moisture, the latter depending upon the amount of initial heat present in the lumber. After a sufficient period of vacuum, varying with different species and thicknesses, the vacuum is broken by the inrush of chemical solution from the storage tanks, where it has been

The Start of the Comparative Test

Two houses were erected and each filled with oil-soaked excelsior. The same amount of oil was used in each house. At the right is the house constructed of firesafe lumber.

kept at a temperature of from 100 to 150 deg. Fahr., depending upon the formula being used. In these storage tanks mechanical agitators are sometimes employed.

A large percentage of the necessary impregnation is obtained by prompt absorbtion, but when the flow into the cylinder becomes static, pumps are employed to force an additional amount of solution into the wood, pressures of from 100 to 250 lb. per sq. in. being employed. Each gallon is metered as it passes through the supply lines, and a further check is provided by gages on the storage tanks.

In the cylinder even temperatures are maintained by steam coils and recirculation by means of a propeller-type agitator. This cylinder agitator is a unique feature of the firesafe process and makes for even saturation. Only a carefully controlled number of gallons per hour per thousand feet board measure is forced into the wood, at a regular rate, until the desired total is reached, when the impregnation is stopped and the superfluous solution returned to the storage tanks by a separate centrifugal pump.

After a brief dripping period, during which the cylinder do or is unbolted, the lumber is then removed from the retort.

If necessary, the wet lumber can be immediately placed in a dry kiln, but an oxidation period of one or more days is recommended before the actual mechanical drying starts.

The Dampsafe Treatment

Should the firesafe lumber be intended for use out of doors or in damp places, a second treatment (before drying) is employed which accomplishes a rapid chemical reaction and renders the chemicals of both treatments insoluble. This reaction is very effective, and the resultant amorphous substance cannot be dissolved in water or even in a 20 per cent solution of hydrochloric acid.

If this reaction could be accomplished evenly throughout the cellular mass of the wood, a perfectly insoluble treatment would result, but due to the active affinity of the two solutions, the union is accomplished more effectively on or near the surface of the lumber. An average penetration of about ¼ in. is to be expected, which is sufficient for most moisture or exposure conditions, but will not permit immersion in water for long periods without partial leaching of interior chemicals.

This dampsafe treatment is not water-repellent or waterproof, and is rather to be likened to the condition of a brick which, due to its porosity, may absorb and exude moisture without deleterious effect. The result is decidedly non-hygroscopic lumber. There is noticeable, however, a slight surface deposit of a white, granular substance, easiiy brushed off, but which renders this doubly treated lumber hard to plane, although it may otherwise be cut easily.

While the firesafe and dampsafe treatments may be handled in one retort, provided careful washing is done between, a separate cylinder for the second treatment is recommended.

Treated Lumber Non-Corrosive

It must also be added that dampsafe lumber is largely non-corrosive, neutral and non-poisonous. Ordinary wire nails have shown practically no corrosion after months of exposure in it.

An interesting phase of the latter lumber is that under air conditions it dries more rapidly. In fact, for ordinary structural purposes, especially in partially impregnated stock, nothing more is recommended than air drying for a period of a few weeks.

Finally it must be noted that dampsafe lumber is not adapted for re-milling—the finished shapes only should be treated.

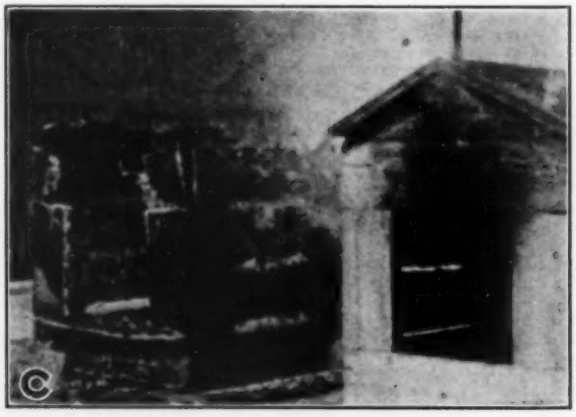
The chemicals used in both firesafe and dampsafe treatments are harmless and not poisonous; in fact, most of them can be taken internally without injury.

Partial Impregnation

Great fire resistance is obtained from surface impregnation; almost as much as from the full treatment. The thin coating of firesafe wood acts like a covering of Kalamean and effectually retards the progress of fire. In a recent public test a flame of 6000 deg. Fahr. under heavy pressure was directed at the surface of a piece of partially treated spruce lumber for a period of five minutes with only a shallow charred spot, the diameter of the flame, resulting.

For test purposes two small houses (4 by 4 by 5 ft.) were built from 1¼ by 9 Canadian spruce, all taken from the same pile. The one at the right was partially treated—that is, it was given the firesafe and dampsafe treatments, approximately ¼ in. deep—and then dried to 15 per cent moisture content. No boards were resawed or split but all were crosscut, exposing untreated ends. The one at the left was built of untreated (natural) stock. The houses were set 2 ft. 6 in. apart, filled with dry excelsior, and each one was saturated, inside and out, with five gallons of kerosene and ignited. The pictures tell the rest of the story.

Partially impregnated stock is ideal for many purposes; in fact, for practically all purposes where the lumber is not



One State of the Comparative Test

The house constructed of firesafe lumber only bears signs of smoke while the other has almost been destroyed. This picture was taken twenty minutes after the fire had been started.

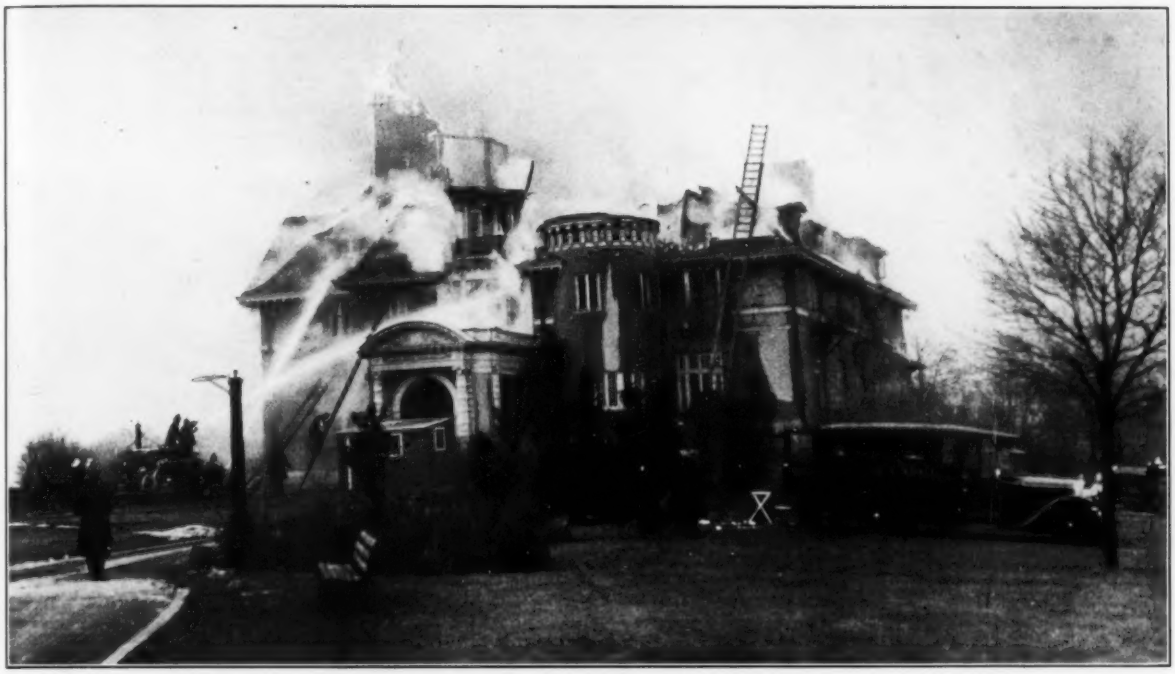
to be resawed or milled after treatment. The untreated ends present no danger, as fire will not work in against the end grain of the wood to any extent.

A great saving in cost on partially treated lumber is obvious; less chemicals are used, the drying is easier, and the stock is lighter in weight.

The firesafe treatment leaves the lumber almost natural in color. It is therefore hard to distinguish, especially when mixed with other lumber on jobs.

Wood structure is an important factor in impregnation. Some species are easily treated evenly to a depth of several

(*Continued on page* 253)



Long Lines Are Frequently Necessary at the Mansion Fire

Where buildings are located on estates, the department is usually forced to stretch from the nearest city hydrant which may be several hundred feet away. The use of pumpers is necessary to secure satisfactory streams. Time taken to stretch in lines is a serious factor in checking the blaze.

The Mansion House Fire

Presents Problem of Its Own to the Fire Fighting Force—Life Hazard Relatively Severe

THE fire described in this series of articles on administration was suggested by Henry W. Pilch, who is identified with the Madison, New Jersey, Fire Department. Mr. Pilch has submitted much of the information included, particularly on the causes of fires and difficulties encountered.

The chief causes of fire in the mansion house may be listed as follows:

Defective heating plants and flues; oil and gas heaters used in connection with old flues; also the use of new heating appliances not carefully designed; sparks on roof; large log fires in open fire places; chimney fires; large expanse of wood shingle roofs; careless use of electric fixtures and appliances by servants and workmen; painters' torches, etc; lightning; careless use of smoking materials.

Difficulties Encountered

The great danger in private dwellings is the possible loss of life. Owing to the construction, furnishing, and lack of fire escapes, most, if not all of such dwellings, are fire traps.

From the first floor to the roof is practically a large flue. If fire starts in the cellar or in the basement and extends to the fire floor, or if it starts on the first floor, and gets any headway, it will rapidly extend to the roof and probably to all parts of the building. There are every means favorable to rapid extension, such as open stairways and stairhalls, constructed of wood, rooms opening on each hall, and rooms hung with curtains and other draperies. The doors of the rooms are seldom closed, and furnish excellent means for fire to travel with such rapidity as to cut off the escape of the occupants. Their only chance is to get into one of the rooms and close the door, and wait until the arrival of the department.

Delayed alarms are quite common at this type of fire. For some unexplainable reason, wealthy residents hesitate to call the fire department. Too much reliance is placed on the ability of servants to extinguish fires. Private equipment often fails, with the result that fire is permitted to obtain great headway before the department arrives.

Such buildings are usually located on the outskirts of cities, necessitating long runs, sometimes over bad roads. Due to the fact that buildings are so placed, long lines of hose are frequently necessary, and insufficient water supply is, on many occasions, encountered.

Other features of construction which have a bearing on the operation at a mansion fire are: false floors and ceilings, additions or annexes, wings, and similar structural changes which result in the creation of dead spaces through which fire may travel rapidly, and without detection; dumbwaiters, laundry chutes; the continual changing and extension of the electric lighting system, frequently resulting in the creation of hazards.

Because of the valuable contents and furnishings in this type of building, the use of water must be restricted as well as the use of axes and other forceful entry tools. To avoid heavy losses, due to the damaging of valuables, unusual care must be exercised in operating at these

Wood Shingle Roofs Aid in Spreading Fire Through Mansion Areas

Fanned by a swift northwest wind, flames swept the residential section of Nahant, Mass., in 1925, destroying thirty-five homes, all of the better class. The presence of wood shingle roofs, as well as low water pressure, made the spread of the fire rapid, despite the best efforts of the department. The illustration above shows the burned area after the fire had been checked.

fires. The necessity for such care may delay the operations of the department appreciably.

Because large estates are often closed during many months of the year, with only a few servants or a watchman on the premises, fire gains great headway before being discovered.

When a mansion filled with valuable furniture, works of art, etc., is in danger, the firemen will often exert themselves to extremes to hold the fire without doing unnecessary damage.

The Attic Speeds Up the Fire's Travel

Large open attics, with plenty of exposed combustible material on all sides, contribute greatly to the rapidity of spread of fire in mansions. Once the blaze reaches the attic, it is but a few minutes until the entire top of the building becomes involved.

In some cases it is good policy to make as few openings in the wall as possible, and to operate with small streams in an endeavor to hold the fire with the minimum of damage. Once the department is on hand and has plenty of equipment and men available, usually the fire has reached such a point that it justifies the use of heavy streams, or else it is still in such a stage as to justify the use of small streams and the employment of great care on the part of the men.

Fighting the Fire

On arriving at a mansion fire note quickly the extent of the fire, place the ladders and hose at the best points of vantage, get into and make a thorough search of the rooms on the upper floors for occupants who may have been overcome and could not reach the windows.

If the fire has started in the cellar, and has not extended beyond, but is bad enough to keep the men from entering the cellar by way of the stairs, stretch the first line into the basement and cover the cellar stairway to keep the fire from coming up; second line into the basement.

Attach cellar pipe, cut holes in floor, and put pipe to work. Watch the guide marks on the handle so that the stream may be directed most effectively. If necessary to work a line from front or rear cellar windows, attach a cellar pipe, as the bottom of these windows are on a line with the cellar ceiling, and a stream from a straight nozzle canont be directed with full effectiveness.

If the fire is in the basement, stretch the first line up the front steps and cover the stairway leading from basement to first floor. If there are two stairways, watch both, also dumbwaiter shaft. Stretch the second line into basement and, if required, third to rear of building through adjoining building.

If the fire is on the first floor, stretch line up the front steps. If the fire has extended up the stairway, give the

(Continued on page 244)

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

REMEMBER the old axiom, "little pitchers have big ears!"

Persons working with children realize that a youngster of public school age is a most inquisitive person, and that even though school lessons are not retained readily, many other facts are. Chiefs who appreciate this condition realize the value of the public school system for disseminating information relative to fire prevention.

The fire department also conducts fire drills so that the children will follow a certain procedure mechanically.

The value of spending some time with children is best illustrated by what happened at a New York city school, in the Borough of Brooklyn, rather recently.

In addition to being trained to recognize the fire drill signal, the pupils were taught to respond to an emergency whistle signal blown by appointed monitors. An explosion in a home shattered most of the windows of a nearby school and made the fire alarm system inoperative. As an emergency measure, the hand whistles were blown. Even though some children and even teachers were bleeding from cuts made by flying glass, and even though no one knew what was happening, the children marched out in orderly fashion.

The problem that is discussed in this issue appears in the box on this page. In the box on the following page is the question that will be discussed in the next issue. Should you have some comments that you would like to make on the forthcoming discussion or if you have a question that you would like to see treated in this department, write to the "Round Table Editor," FIRE ENGINEERING, 225 W. 34th Street, New York, N. Y.

HERE IS THE PROBLEM

Does your department make it a practice to give talks to school children?

Is this scheme effective?

How does your plan operate?

The Question

Most chiefs take a keen interest in the children attending schools. Not only do they give frequent talks to the children but they also supervise the fire drills and note the time required to leave the building. The replies received follow:

Chas. Plummer, Chief, San Jose, Cal.: It is the practice of this department to give frequent talks to school children which we believe to be very effective.

We do not wait for Fire Prevention Week to present our program to the school children, but instead make periodic visits to all the schools throughout the city, both public and parochial.

The manner in which we carry out such a program is: Upon visiting a school, a fire drill is conducted by the Fire Prevention Officer who makes notation of the time required for such in each instance. On reassembly the students gather in the school auditorium where the officer puts the students through a test, asking questions similar to the following: Where is the nearest fire alarm box to your home? what is the correct method of turning in a fire alarm? how would you enter a building charged with smoke? what part of a door would you break to enter a building?, etc., etc.

Talks are given, explaining the use of the fire extinguisher and the composition of the different chemicals therein, also where and how to direct the stream of the extinguisher to get the most beneficial results. Other subjects discussed are: How to leave a building where all exits are blocked, use of improvised ropes made from sheets and blankets to reach the ground, what to do in a theatre or other assembly hall should a panic arise, how to use the exits, counciling the audience to leave in an orderly manner, etc.

Rue Chrisman, Chief, Roswell, N. Mex.: It is our practice to send firemen to the schools to give a ten minute talk after each fire drill which is held monthly during the school year.

I can readily see the effect of this plan, and believe it to be as necessary as the other studies prescribed for the children.

The department sends two firemen to the schools once a month, varying the hour of the visit on each occasion. A fire alarm drill is turned in and check-up is made as to length of time required to vacate building. When this program was first inaugurated, it took an average of 50 seconds to clear the building and which is now accomplished in 32 to 38 seconds.

E. F. Lester, Chief, Athens, Ga.: The topic of fire prevention is presented to the school children in the following manner: Once each school term the children accompanied by their teachers visit the various stations of the department where the various pieces of apparatus and their use are explained. The danger of fire is discussed and a general fire prevention program is presented.

We find this program to be very successful and believe the impressions made on the mind of the child remain there indefinitely.

Overcrowding of stations during the presentation of our program is prevented by having a time schedule for the visit of each grade comprising a particular school.

Lawrence E. Reif, Chief, New Haven, Conn.: During Fire Prevention Week we furnish the schools with a uniformed fireman to give a talk on fire prevention. At other times, only upon request. We also furnish a fire alarm box upon request for the advanced class at night school to be instructed in the sending in of alarms.

We believe the effect of such a program to be quite visible as our fire loss during 1929 was $287,684 less than that of 1928.

Our school program is carried out as follows: Upon the request of the Superintendent of Schools who sends to fire headquarters a list of the various principals who would like a speaker on the subject of fire prevention, a schedule is made out detailing various firemen to such school as requested.

Harry Stevens, Chief, Monrovia, Cal.: The schools of Monrovia have a Safety Committee consisting of five students, one each from the 4th to the 8th grades inclusive. About twice a year firemen lecture to this committee and demonstrate the different types of fire extinguishers, hose reels, and other fire equipment about the school property.

This student committee then presents the information so secured through lecture and demonstrations to

the fellow students of their respective grades, discussion being entered into as the subject is presented.

During fire prevention week each student is required to write an essay on Fire Prevention. Judging from the comments received at headquarters, many students show these essays at home where they receive the attention and discussion by their elders.

L. L. Lessinger, Chief, Nampa, Idaho: We take every opportunity to appear before the school children, in fact the major portion of our fire prevention activities are with the schools.

The effectiveness of any fire department program with children is pretty much a matter for future development. Children are interested in fire departments, and that natural interest is a factor that should not be overlooked. The results will be measured by what you offer, and the manner of its presentation.

During Fire Prevention Week every effort is made to interest the schools in our work. Talks, pictures, drills, essays, and demonstrations being the main features of the program. In our talks to the children we aim to shape our talk so that it will be understood by the particular grade being addressed.

Richard Kelley, Chief, Davenport, Iowa: The Chamber of Commerce and the principals of the various schools cooperate with us in presenting our fire prevention program before the school children. Each school is visited and talks on various fire hazards, how to turn in an alarm, what to do in case of fire, etc., are discussed.

We also distribute printed forms for the children to take to their homes and fill out and then return to their teachers, who in turn send them to fire headquarters. In this manner a checkup can be made as to what the children know concerning the fire prevention subjects presented to them during previous lectures. Any points which we find need further discussion are taken up on our next visit to the schools. We find this plan to be very effective.

W. A. Foster, Chief, Boise, Idaho: It is the practice of our department to give lectures and demonstrations to school children. The major subjects covered in this work are: the workings of the alarm system and the necessity of prompt and distinct alarms especially when transmitted over the telephone. It is our belief that this work among school children have enabled us to speed up response to alarms in many instances.

Our program at the school is carried out as follows: Fire drill is sounded and the time required for the building to be emptied noted. A lecture is then given on the requirements and necessity for prompt action on the part of each pupil in order to make the drill a success.

J. H. Carlisle, Chief, Brawley, Cal.: At the present time it is not our custom to give lectures to school children. We do, however, conduct fire drills at each school once a month.

I believe that one pupil of each classroom should be trained to lead the class out of the building when the fire alarm is sounded. To make such work really effective I believe that each classroom should be so equipped that it can receive and send the fire alarm signal. I mention this because during a drill held recently at one of our schools, one of the classrooms did not hear the signal and hence did not respond to the drill call.

J. H. Adams, Chief, Louisville, Ky.: The chief fire prevention inspector gives talks before school classes whenever a request is received for such, which are quite frequent. Schools visited include the graded, high and normal school divisions. Fire drills are compulsory in all city schools twice a year and are conducted by members of the fire prevention inspectors force. I believe that a great deal of good has been accomplished through this work.

Wm. Briggs, Chief, Shelbyville, Ind. We have nine schools in our city, and I visit each one, presenting a fire prevention talk. I believe this plan to be very effective because the child usually carries such a message home. I am thoroughly sold on the results of such work.

I have the cooperation of the Boy Scouts and other civic organizations in my efforts to broadcast fire prevention information, but again repeat that I believe the message presented to the school children bears the best results.

James M. Ames, Chief, E. St. Louis, Ill.: Our present plans do not include talks to school children, but instead, we distribute blanks to them which we ask them to fill out and return to their teacher.

This "Home Inspection Blank for School Children" contains questions for the children to answer relating to housekeeping in general about the home, and materials entering into the general make up of the structure.

There are about 2,000 Boy Scouts in East St. Louis and we talk to them at their meetings. We also have the cooperation of our local *Daily Journal* in preaching of the fire hazards found in the home.

Wm. Berger, Chief, Fremont, Ohio: Only on request of school teachers are talks delivered to students. I believe this practice to be very effective as the children are not apt to forget what the uniformed fireman has to say to them. A lot of good can be accomplished in properly educating the school youth in fire prevention.

Clive K. Dall, Chief, Delaware, Ohio: We have not used speakers in the schools, but when making my tour of inspection of school buildings I pass out to the children pamphlets containing fire prevention information. These pamphlets are carried home by the children so that their parents have an opportunity of becoming familiar with the essentials of the subject. By reaching the parents in this manner with a fire prevention message, I believe greater results are secured than simply by talking to the children.

Vincent Malloy, Chief, Salem, Ohio: It is the practice of this department to present the subject of fire prevention to school children. A uniformed fireman is bound to make an impression on the child, and I believe it to be the proper time to begin education in such matters.

Immediately following a fire drill is the usual time for these talks, unless weather conditions are unfavorable for holding drills. In such cases the lecture only is given.

Peter Beckerle, Chief, Danbury, Conn.: We have found our plan of presenting the subject of fire prevention, very effective.

When a child is instructed in school as to this subject, he talks about it at home. He is a help in educating the whole family, both young and old, in being more careful concerning fires.

J. R. Eldridge, Johnson City, N. Y.: Fire drills are held periodically in our schools, and at such times talks are given to the children regarding fire and fire prevention.

During Fire Prevention Week each year we make a special effort to give talks at the different schools and find this instruction very effective.

Wilbrod Boyer, Chief, Ironwood, Mich.: Talks or lectures are given school children at frequent intervals. The sending in of alarms by small children for chimney fires is not approved, as we have many such calls to respond to. We tell them to notify the property owner who must use his judgment about calling the fire department.

B. B. Hart, Chief, Daytona Beach, Fla.: Included in the activities of this department is a program for presenting short talks to school children at frequent intervals.

(*Continued on page* 248)

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Do your hose threads conform to the National Standard specifications of 7½ threads per inch?

If not, do you believe they will be rechased in the near future?

Does your thread correspond to that of nearby cities so that mutual aid will be possible?

WITH THE EDITOR

School Fire Drills and Safety

There can be no doubt that the general adoption of the fire drill in schools has done much to reduce the loss of life through panic when alarms of fire occur in such institutions. Accounts frequently appear in the daily press in which reference is made to the steadiness and coolness with which pupils, marshalled by their teachers, march out of a school building wherein a fire has been discovered. A notable case of such steadiness occurred recently in Brooklyn Borough, New York City, when a still explosion in a building opposite a public school broke practically every window in the building, and produced a situation which had all the elements of a bad panic. In spite of this, with the crash of the glass about them and the clang of the apparatus in their ears, the pupils marched out with admirable coolness and with the perfect precision of a school fire drill.

This is only one of many similar instances illustrating the great advances which the practice of the fire drill has accomplished in the schools of the country. Not only does the drill produce steadiness in time of fire panic, but it has a distinct psychological effect upon the character of the individuals so instructed, in their later life, giving them a poise in time of stress and danger they otherwise would not possess.

The school fire drill is a matter with which the chief of the fire department is vitally concerned. He should take a lively interest in seeing that the drills are carefully and regularly conducted by the principals and teachers and if neglected he should at once get in touch with the educational authorities of his city or village and insist that the drills in the schools be properly carried out. By so doing he not only will insure the safety of the scholars but also will emphasize the fact that he and his department are "on the job," and intend to see to it that all matters connected with the safety of the schools are carried out.

Telling the Voters About the Proposed Fire Station

A certain New England town being in need of an additional fire station, and with the matter about to come before the voters for their approval, the Chief of the Fire Department followed the wise procedure of acquainting the electorate with the exact facts in the case by means of the local press. In a clear and concise statement, published gladly by the local papers, he set forth the reasons for the building of the new house, its necessity from a fire protective standpoint, the substance of his interview with the Underwriters, their advice upon the matter and the result of investigations conducted jointly by the Underwriters and himself.

In other words, the Chief took the public frankly into his confidence, and laid the entire matter before them, relying upon the judgment and common sense of the voters in their action when the question came before them for their decision.

There is no doubt that this course was the wisest that this chief could have taken. If he had simply placed the matter before the voters, as is, unfortunately, so often done, without any detailed statement, the margin for misunderstanding and defeat for the measure would have been a large one. But, with the issue set squarely before the people, thoroughly explained and with no room left for misunderstanding, the result could be, it would seem, only success and the carrying of the appropriation for the needed improvements.

The example of this head of the fire department could well be followed by other chiefs in like situations.

Whether to Answer Outside Appeals or Not?

This is a subject upon which there are two diametrically opposed opinions, and upon both sides of which there are adduced the strongest of arguments.

Those in favor of answering alarms outside of the city limits claim that common humanity dictates that the fire department should respond to such appeals for help; that the dwellers in the outlying territory help to support the storekeepers of the city or village, and are therefore entitled to the services of the fire department; that, if a small charge is made to cover the expenses of the call, such service can be given without loss to the local department; that such trips into the country are as good as practice runs for the fire department, and so on.

On the other hand those opposed argue that the taking of the fire department or any portion of it outside of the limits of the municipality weakens the defense against fire to just the extent of the men and apparatus withdrawn. It takes apparatus, they claim from the city just when, it may easily happen, a great conflagration may occur or a small fire get beyond control. At any rate, the withdrawal of any amount of apparatus outside of the limits, means a weakening of the lines of defence materially. The people benefitted, even though a small amount is paid for the actual service of the truck, it is said, pay no taxes for the support of the fire department, and thus are receiving the service at a lower rate than are the actual taxpayers of the city or town.

The matter is largely one that must be governed by the conditions prevailing in each individual case. No set and fast rules can be laid down in this matter of help for the unincorporated and outlying districts. Often these districts are composed of farm houses and isolated

estates, situated so far from the home town that by the time the apparatus arrives the structures involved are beyond saving. Often, too, the water supply in such places is either nil or so poor that little or none can be obtained and after having made the expensive run and left the home town partially unprotected, the men are compelled to stand helplessly by and watch the fire burn.

Probably the best plan under such circumstances, is for the farmers or other property owners outside the limits to club together and purchase their own fire apparatus. Arrangements can then be made to house it in the city or town, and, as is done in some cases, certain assigned men of the local department can be used to man the apparatus. Thus the needs of the farmer or suburbanites as regards fire protection are taken care of, without drawing upon the forces needed to guard the municipality, and general satisfaction is the result.

E. F. Lester New Chief of Athens, Ga.

AS PREVIOUSLY announced, E. F. Lester, who had served for some time as Acting Chief of the Fire Department of Athens, Ga., has been unanimously chosen as the head of the fire fighting forces of the city. During the illness of Chief Watson he served as acting chief and was in active command of the department.

Chief E. F. Lester, Athens, Ga.

Chief Lester has been a member of the Athens Department for the past eighteen years.

For four years he served as private in the department and then six years as driver. He served as lieutenant for three years, four and a half years as captain and about three months as assistant chief. The new chief stated that in the future he plans to fight fires by preventing them before they start and that he would seek the cooperation of the residents in accomplishing this result.

Fatal Film Fire

At a fire which broke out at a show held in a warehouse at the naval base in Seoul, Korea, 104 persons were killed and more than one hundred injured. The show was to mark the twenty-fifth anniversary of the capture of Mukden by the Japanese in the Russo-Japanese War.

The film was a patriotic reproduction of scenes in the war. When the fire broke out there were six hundred persons watching the show, mostly small children.

For a time flames from the warehouse threatened to spread to an ammunition magazine nearby. It was with considerable difficulty that the bluejacket fire-fighter succeeded in preventing this.

Boston to Have New Fire Boat—The committee on finance of Boston, Mass., has approved an order for an appropriation of $350,000 for a new fire boat as recommended by the Mayor. The vessel will have a steel hull and a pumping capacity of 10,000 gallons of water a minute.

Ex-District Chief Heffernan of Boston, Dead—Funeral services were held for Maurice J. Heffernan, retired district chief of the Boston Fire Department, from his late residence on March 5. A detail of firemen under District Chief Charles Donohoe served as escort. Chief Sennott and Assistant Chief Fox were among those who attended.

Boston District Chief Honored

Members of Ladder Company No. 1, of the Boston Fire Department, on March 3 tendered a testimonial dinner to District Chief Samuel J. Pope their former captain, whose promotion was recently announced.

The banquet was held at the firehouse on Friend Street and was largely attended by fire officials and friends of the new chief. Peter Donovan of Charlestown, acted as toastmaster and introduced the speakers, who included Judge Charles S. Sullivan, Acting Fire Commissioner Daniel F. Sennott, Acting Chief of Department Henry A. Fox, Representative Charles S. Sullivan, Jr., Deputy Chief John J. Kelly, Deputy Chief Henry J. Power, District Chief John S. Watson, District Chief Avery B. Howard, Captain Charles McDonnell and others.

Deputy Chief S. I. Pope Boston

The firemen presented Chief Pope with an electric desk light and writing set and the business men gave an ash tray and cigarette case.

The committee in charge of the arrangements was composed of Daniel Foley, Chairman; Peter Cotter, Albert Ford, John Concannon, and Patrick Carroll, all of Ladder 1. Beds were removed from the bunkroom and the banquet tables set up there, the walls being festooned with bunting.

All the speakers paid high tribute to Chief "Sammy" Pope who used to be telegrapher and whose rise from the ranks to lieutenant, captain, and now to district chief has been rapid.

Among those who attended were Deputy Chief Thomas H. Downey, Deputy Chief Albert J. Caulfield, District Chief Edward J. Locke, District Chief Philip L. Tague, Supt. Edward E. Williamson, of the Maintenance Division, B. F. D.; Robert Brennan, Superintendent of Garage, B. F. D.; Captain Dennis M. Condon, Engine Company No. 50; Captain Joseph Humphries, Engine Company No. 26; Captain James Kane, Ladder Company No. 20; Lieut. Charles B. Lynch, Ladder Company No. 1; Lieut. Edward F. Doyle, Engine Company No. 22; Lieut. John A. Morrissey, Engine Company No. 4; Lieut. John McNamara, Engine Company No. 6; Lieut. Edward Humphries, Engine Company No. 6; George Kilduff, aide to the Chief of Department; Joseph McKendrew, aid to the Fire Commissioner; Theodore A. Glynn, former Fire Commissioner of Boston; and Lieut. Matthew J. Nolen, of the Brookline Fire Department.

The festivities were interrupted when Ladder Company 1 "rolled" to a still alarm fire at 145 Washington Street caused by the back firing of an oil heater. The blaze proved to be trifling and the company soon returned to quarters.

District Chief Pope has been assigned to District 7 and will make his headquarters at the Warren Avenue fire station.

HARRY BELKNAP.

Fire Waste Council to Meet

The spring meeting of the National Fire Waste Council will be held at the headquarters of the Chamber of Commerce of the United States, Washington, D. C., March 28 at 10 a.m.

An attractive feature of the meeting is to be the report of the Contest Grading Committee, at which time will be announced the winners and honor cities of the 1929 Inter-Chamber Fire Waste Contest. In addition to this, an attractive program is being arranged which will include several addresses of unusual interest to the council and member organizations of the Chamber.

All persons attending will be guests of the Chamber at a luncheon. It is expected that the meeting will adjourn at 3 p.m. to permit departure on late afternoon trains.

Pumper Bids to Be Re-Advertised—Norwalk, Conn., is to re-advertise the bids for a new pumper. Four townships in Norwalk have agreed to pay $3,000 a year for three years in service charges if the pumper is purchased by the city and available for rural use.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Handling a Tenement Fire

To the Editor:

Here is a question which was asked in a recent Massachusetts examination for captain and is causing much talk by those who answered it, due to the low marking they received from Massachusetts Civil Service Commission examiners.

Will you kindly send be your answer to the question?

Question: You are in command for fifteen minutes at a fire in a dry goods store on the first floor of a four story tenement house. Fire has possession of the hall and stairway leading to the second floor. You have at your command three engine companies and two ladder companies. Explain where you would place your lines and the use you would make of the ladder companies?

Respectfully yours,

J. J. O.

Answer: Problem does not state the hour fire occurred, the number of persons in the building, the size of the building, nor other essential facts.

If the building is of large area, and contains a large number of persons, and if fire occurs late at night, it would be necessary to immediately transmit call for additional help. On the other hand if the building is of but moderate size, and if no unforeseen conditions are encountered, which would delay the operations of the department, a first alarm assignment may be expected to handle the situation.

The problem states that fire had possession of the hall and the stairway leading to the second floor. From this it is assumed that the fire has not involved the stairway above the second floor, thus indicating that it is in its early stages in this particular part of the building. Under these conditions, the first alarm assignment at hand should be able to handle the situation properly.

Assuming the fire occurs at night, the department will have a severe life hazard on its hands.

The assignment of apparatus to hold the fire while rescues are being made and subsequently to bring the fire under control would be as follows:

First ladder company immediately open up building, and place ladders front and rear to fire escapes, or if no fire fire escapes are provided either at front or rear of building, ladders would have to be placed to the windows on the different floors. Tenement will likely have fire escapes either at the front or rear, or both, so that the task of bringing persons down to the street will not be as severe as where ladders only could be employed.

If there are fire escapes both front and rear, ladders to reach the escapes can be provided by the first truck company, and the first truck company should, in addition, raise ladder to the roof at once and send a man up to open up the roof over stairwell. This is a very necessary operation in order to prevent mushrooming of the fire on the top floor, and to delay its extension to the apartments on the various floors.

In the event that persons in the building are panic stricken upon the arrival of the department and are ready to jump, life nets will have to be put into service at once. Members of fire engine company may assist in this work until the arrival of second truck company.

Second truck company upon arrival places additional ladders front and rear, assists persons to the street, and goes through the various floors of the building to make sure that everyone is out.

First engine company stretches two lines at once to first floor stair hall, wets down quickly around the hall and is ready to proceed up stairs as soon as second line is stretched in. Second line to cover first line, and to hold fire from extending further into the stair hall from store. First line proceeds up stairway, after directing stream vertically to wet down above and to check spread of fire.

If fire is threatening to lap up front of building from store and thus endanger those on fire escapes or delay rescue operations, first line from first engine would be directed to operate on store fire while second line would be assigned to operate on ground floor in stair hall.

Second engine company stretch one line to rear of building, to prevent fire from lapping to upper windows from the store. As soon as line is in operation stretch in second line from the same company to rear, to operate on the store fire.

Third engine company stretch two lines at once to the front of the building to operate in store. If there is a possibility of the fire having reached the top of the stairwell, line should be sent by ladder to the top floor at once to operate on the fire at this point. As soon as the line working up stairway from first engine company is free to leave its post, it should be put in operation on the store fire.

In the meantime, persons should be brought to the street by means of fire escapes, if they are provided. If not provided, then ladders must be employed, and if the stairway is safe for egress of persons, they should be directed out by members of truck company, using stairways for this purpose.

As noted above members of second truck company should be ordered to make sure that everyone is out of building, by making a thorough inspection through the various apartments.

Finally, after the fire is under control, great care should be exercised in making inspection of all vertical shafts as well as blind attic or cock-loft, as fire frequently travels through concealed spaces and may later break out in the upper part of the building, if not promptly detected.

It is believed the above assignment of apparatus will hold the fire and extinguish it, as well as prevent loss of life.

Discharge from Open Butt

To the Editor:

Will you kindly answer the following question in an early issue:

With 19 lengths of 2½-inch hose and open butt, with 80 lbs. hydrant pressure, how many gallons of water would be discharged per minute?

Yours very truly,

T. W.

Answer: It is first necessary to find the pressure at the butt, and when this is known the discharge can be found by the usual formula.

Formula for finding nozzle pressure (butt pressure) is as follows:

$N.P. = E.P. \div (1.1 + KL)$

Where E.P. is 80 lbs.: K, for 2½-inch hose with open butt, is 2.8; and L, the number of 50 foot lengths of hose in the line, 19.

Incidentally, the value of K for 2½-inch hose given above gives approximate results, but is satisfactory for use in a problem of this type.

Then $N.P. = 80 \div (1.1 + 2.8 \times 19)$

$= 80 \div (1.1 + 53.2)$

$= 80 \div 54.3$

= 1.47 lbs. nozzle (or butt) pressure.

The discharge is found by the following formula:

$Discharge = 30 \times d \times d \times \sqrt{} \times .80$

Where "d" is the nozzle diameter in inches, and "p" is the nozzle pressure in pounds per square inch.

The factor .80 is a factor used to find the actual discharge from an open butt after the theoretical discharge has been found. The formula employed for finding discharge from nozzles gives higher results than would be secured by actual test from an open butt. In order to get the correct value

from the results secured by uses of the nozzle discharge formula, we multiply the discharge so found by .80.

Discharge= $30 \times 2\frac{1}{2} \times 2\frac{1}{2} \times \sqrt{1.47} \times .80$
$= 30 \times 2.5 \times 2.5 \times 1.213 \times .80$
$= 187.5 \times 1.213 \times .80$

Equals 181.6 gallons per minute, which is the discharge from the open butt on the 950 line of 2½-inch hose fed by a hydrant at 80 pounds pressure.

Factors for Small Diameter Hose

To the Editor:

This department has placed in service one section of 1½-inch rubber lined hose with a ½-inch smooth bore nozzle to be used for reducing 2½-inch hose lines.

I would appreciate your consideration if you would publish the values of K for 1½-inch hose and ½-inch

A. F. H.

Answer: The information you request was published in FIRE ENGINEERING of October 3rd, 1928. Therein is also given an example of the use of factors for solving 1½-inch hose problems.

The value of K for ½-inch nozzle on 2½-inch hose is .00625.

K for ¾-inch nozzle on 2½-inch hose is .0316

To find the values of K for the nozzles given, on 1½-inch hose, divide the above calculated values of K, for nozzles on 2½-inch hose, by 0.074.

Pressure in Standpipe System

To the Editor:

Will you kindly answer the following problem, if workable? Also advise if answer as given by myself is approximately correct.

The question is as follows:

Hook up two lines of 2½-inch hose to a five story standpipe stystem, using two engines each at 100 lbs. pressure, and each pumping through a single 300-foot line of 2½-inch hose to the standpipe siamese. What would be the pressure at the topmost outlet?

My solution is as follows: In this problem two engines are pumping at 100 pounds pressure into the standpipe, which is 60 feet high. Each is operating through 300 feet of 2½-inch hose. I allow 20 pounds friction loss in each line; 15 pounds for friction loss in the standpipe and connection; 26 pounds for back pressure. By this I would have a total available pressure at the top of 31 pounds for each engine, and with two engines would have 62 pounds pressure.

C. B. O.

Answer: As you state no layout on the fifth floor, an answer could not be given to the problem except certain assumptions are made. In the first place, assume that no water is flowing. In this case the only factor which works against the engine pressure is the "back pressure" in the standpipe system. The outlet on the fifth floor is approximately four stories above the outlet on the engine, at which the gauges are placed. Thus we would have $4 \times 12\frac{1}{2}$, or 50 feet elevation of water in the standpipe system exerting pressure against the engine. 50×4.34 gives us a "back pressure" of 21.7 pounds.

The available engine pressure will then be 100 minus 21.7 or 78.3 pounds. You will appreciate that this is pressure at the standpipe outlet on the fifth floor, when no water is flowing.

But such a problem is one not commonly encountered. Almost invariably where engines are hooked to a standpipe system you will have some sort of a layout attached to the standpipe to deliver water on the fire. Let us assume, for example, that on the fifth floor we have a single line of 2½-inch hose 100 feet long, equipped with 1¼-nozzle.

On this basis we make the following calculations:

Combine the two parallel 2½-inch lines of hose into a single line by dividing by the factor 3.6.

300÷3.6=83.3 feet of 2½-inch hose, single line.

Add the 100 foot line on the fifth floor, giving us a total of 183.3 feet of 2½-inch hose.

Nozzle pressure is found by formula:

N.P.=E.P.÷ (1.1+KL)

Where K, for 2½-inch hose and 1¼-inch nozzle, is .248.

L, the number of 50 foot lengths of hose in the line.=183.3 ÷50=3.666.

Engine pressure available for overcoming friction loss in the hose and giving nozzle pressure=100—back pressure—friction in standpipe, which is taken at 25 pounds.

Then E.P. (corrected)=100—21.7—25=53.3 pounds.

N.P.=53.3÷(1.1+.248 x 3.666)
=53.3÷ (1.1+.908)
=53.3÷2.008, or 26.5 pounds.

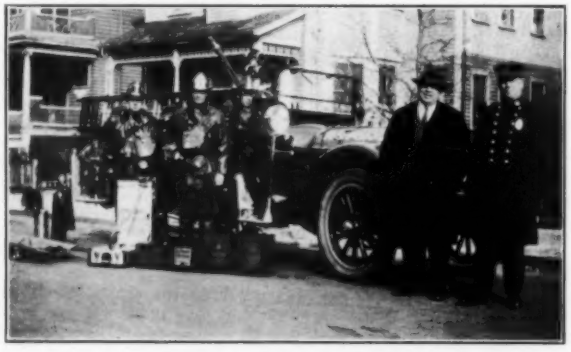
Your solution is not correct in that you assume a certain friction loss in the hose without knowing the flow therein; also you assume a certain friction loss in the standpipe system without knowing the flow therein.

Furthermore, the pressure in the standpipe system is definite for each point. If one engine can deliver a certain pressure at a certain point in the standpipe system, the addition of another engine at the same pressure will not change the standpipe pressure whatsoever. For example, if you have a nozzle pressure, in the layout suggested above, of 26.5 using a single engine at 100 pounds pressure, you will have exactly the same pressure, namely, 26.5 pounds, using two engines parallel at the same pressure.

Revere Has New Rescue Company

The city of Revere, Mass., on March 5 officially placed in service Rescue Company No. 1, the car and equipment being a gift to the municipality from Fire Commissioner Harry J. Harding.

The apparatus is mounted on a Pierce Arrow chassis and carries the following equipment: two All Service gas masks, first aid kits, 20-foot extension ladder, 12-foot collapsible ladder, inhalator, stretcher, axes, 35-gallon chemical tank and hose, foam generator, Alfite carbon dioxide extinguisher, soda and acid type extinguisher, Pyrene extinguisher, six rubber blankets, hydraulic jack, crowbar, Bresnon nozzle, jimmy, and Prestolite flood lights.



New Rescue Car in Service in Revere, Mass.

At the right of the apparatus are Fire Commissioner Harry J. Harding and Chief Thomas J. McCarrick of Revere, Mass. The apparatus is fully equipped.

The company is commanded by Captain G. J. Porter and Lieutenant V. D. MacAulay and is stationed at the Walden Street Firehouse in Revere Beach.

Chief Thomas J. McCarrack, of the Revere Department, is very proud of this new unit which is one of the first rescue cars to be placed in service in the Metropolitan district of Massachusetts outside of Boston which operates three rescue companies.

HARRY BELKNAP.

Pleasant Valley, Ia., Raising Funds.—Pleasant Valley, Ia., is trying to raise funds for the purchase of fire apparatus.

Burlingame, Cal., to Buy Apparatus.—Burlingame, Cal., is to purchase a ladder truck estimated to cost $10,500.

Arlington, Ia., May Buy Apparatus.—A meeting has been held in Arlington, Ia., to consider the purchase of fire apparatus.

Garden City, N. Y., to Buy Pumper.—Garden City, Long Island, N. Y., voted to purchase a new pumper to cost $12,500. The board is also considering the erection of a new fire house in the western part of the village.

Survey Started in Salem for Fire Alarm.—A survey has been started in Salem, Ore., for the proposed new fire alarm system. Results of this study will be incorporated in the specifications for the new system.

FAST WORK GETS 148 PATIENTS SAFELY FROM HOSPITAL FIRE

First Hospital Fire to Occur in Providence—Former Telephone Operator at Fall River Conflagration Discovers Blaze—Four-Alarm Response

NURSES, nuns, firemen, police and civilian volunteers succeeded in removing 148 patients from the St. Joseph's Hospital in Providence, R. I., when fire was discovered in a waste chute which rises from the basement. Fourteen of those rescued are infants, one born only an hour before the outbreak of flames.

The blaze was discovered by a student nurse, who at the time of the Fall River catastrophe was the telephone operator who remained at her post until forced to leave by fire in the exchange. She detected smoke while at the telephone board in the hospital.

All nuns and nurses not on duty at the time were attending mass in the hospital chapel. The institution's forces were immediately mobilized and did effective work until the firemen arrived. The staff attempted to fight the fire with water-filled buckets. Flames fed by discarded bandages and linen roared upwards, and ignited dry timbers under the roof. One of the nuns removed the hospital supply of ether to a point where it could not explode.

Five companies responded in command of Battalion Chief Charles F. Dyer. Some time was lost, for when the companies arrived at the box, there was no one there to direct them, and no sign of smoke could be discovered. In scouting around, the hospital blaze was noted.

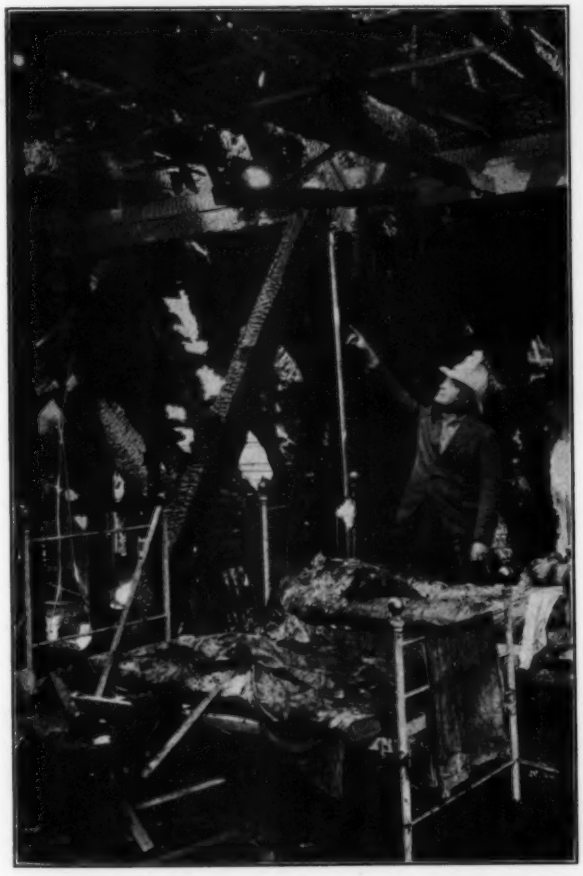
A second alarm was turned in five minutes after the first. A third alarm was sent, calling out every man on active duty. Chief Frank Charlesworth responded with the second-alarm companies.

Inside the hospital, water, accumulated in the loft, started gushing down the stairs and corridors. Patients still in the building were removed to points remote from the flood, but even then attendants had a difficult time in keeping the water out.

Chief Charlesworth reached the hospital just after the third alarm was sounded. After climbing to the seat of the blaze and surveying conditions, he sent in the fourth alarm.

Ladders were raised on three sides of the hospital and firemen worked from the roof. All available policemen were at the scene and many took off their coats to keep patients warm. Firemen working on the outside of the building were in constant danger of being struck by falling slate ripped off by the high pressure streams.

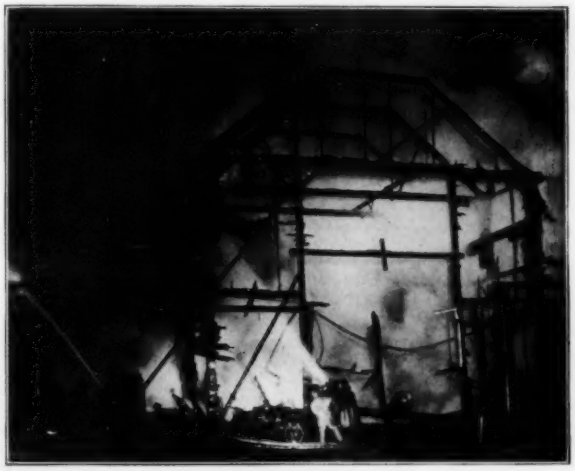
The fire was considered well under control one hour after the first alarm had been received, and all third and fouth alarm companies were ordered back. The department was commended for its good work while serving under conditions where the utmost care was required for the safety of bedridden persons.



Part of the Ruins of St. Joseph's Hospital, Providence, R. I.

East Boston Has Four-Alarm Fire

Four alarms were sounded in quick succession for a spectacular blaze which swept the large frame blacksmith shop in the Atlantic Works of the Bethlehem Shipbuilding Corporation, East Boston, Mass., on the night of January 29.



Fighting the Four-Alarm Fire in the Bethlehem Shipbuilding Plant

The flames had obtained such headway before being discovered that the district chief responding to the first alarm saw the magnitude of the fire before reaching the scene and stopped at the alarm box to sound a second alarm. This was soon followed by a third and then a fourth. The first alarm was received at 10:55; second at 10:57; third at 10:59; and fourth at 11:12 P.M. Special calls were also sent out for fireboats.

The wind was driving the flames directly upon the main buildings of the shipyard and quick work was necessary to save the new brick stock room and large shed adjoining the structure involved. A sprinkler beneath a skylight in the stock room operated and assisted the firemen in stopping the fire just as it entered this building. Lines were taken in to the adjoining shed and played through windows into the burning blacksmith shop. Other lines were directed on the flames from the yard and from roofs of nearby shops. Several roof fires were caused by flying embers which rained down on tenement blocks in Border Street.

Chief Daniel F. Sennott directed department operations, being aided by Assistant Chief Henry A. Fox, Deputy Chief Henry J. Power, and District Chiefs John F. McDonough and Henry Krake.

The blacksmith shop was entirely destroyed, but the rest of the plant was saved. There were a number of ships at docks and slips which were endangered for a time. Damage was estimated at $50,000.

Mayor James M. Curley, of Boston, has received the following letter from the Bethlehem Shipbuilding Corporation:

"Last night we had a disastrous fire at our Atlantic Works in East Boston which threatened several buildings. The Boston Fire Department arrived promptly at the scene and quickly brought the fire under control, confining the damage practically entirely to one structure. Deputy Chief Power, who was in charge of the work, and his assistants deserve to be commended

for the workmanlike and efficient manner in which they met the situation."

Rubber covers were spread by the Boston Protective Department to prevent water damage to stock and machinery. The cause of the fire has not been determined. To reach East Boston it is necessary for multiple alarm apparatus to cross the harbor by ferry or detour by road through Charlestown and Chelsea.

HARRY BELKNAP.

Rag Shop Develops Into Bad Fire

A blaze that started in a rag shop in Philadelphia, Pa., became so threatening that it was necessary to send four alarms and to call nearly all of the firemen in the central city section. The smoke clouds were so dense that even five hundred feet from the point of the blaze, it was impossible to see objects at close hand.

Director Schofield and Chief Davis on Board the Fire Boat.

When the first companies arrived, flames were roaring through piles of cotton waste and burlap on the first floor. Two hours after the fire started the roof and south wall collapsed. Firemen had retreated from the danger zone before the crash came so that no one was hurt.

The rag shop was located in a four-story brick building on the waterfront. The fireboat Edwin S. Stuart tied up at the Merchants and Miners wharf laid several lines to the blazing building.

Two doors away from the ragshop is a large storage warehouse with contents valued at hundreds of thousands of dollars. A half dozen streams were directed on its walls.

The smoke made it difficult for drivers to maneuver their trucks into position. A west wind carried the smoke out over the Delaware river, enveloping ferry boats and causing much excitement among the passengers.

Director of Public Safety Schofield arrived after the fourth alarm and donned rubber coat, hat and boots. He watched the fire from the roof of a nearby empty building.

Four Alarms Necessary at This Philadelphia Rag Shop Fire

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousand.

Week Ending March 7

BEECH GROVE, IND.—Paint shop of Big Four R. R. Damaged	800
VANDALIA, ILL.—Business building damaged	200
N. BALTIMORE, OHIO—St. Augustine's Church	25
NEW ORLEANS, LA.—Dock of Anderson, Clayton County, adjacent property	2,225
CHARLOTTE, N. C.—Myers Hardware Co. store damaged	25
GRASSMERE, S. I., N. Y.—Property of Williams & Van Dorean	65
PORT COQUITLAM, B. C.—Golden Ears shingle mill destroyed	40
BOULDER, COLO.—Louis Ehrlich building damaged	25
WAYNE CITY, ILL.—High school building destroyed	25
KINGSTON, ONT.—Car barns of Public Transportation Co.	100
NEWSOM, N. C.—Plant of W. M. Storey Lumber Co.	80
TRENTON, MO.—Six stores destroyed	80
E. ST. LOUIS, MO.—Paint shop, Edlich Auto Body Works	25
OMAHA, NEB.—Father Flanagan's Boys' Home, 11 miles west	80
PORTLAND, ORE.—Warehouse of Olds, Wortman & King	200
HARLINGEN, TEX.—Factory of Tempie Mfg. Co.	40
BALTIMORE, MD.—Plant of Ditch, Bowers & Taylor, Ind.	250
ALTON, N. H.—Bayview Pavilion destroyed	25
CAMBRIDGE, MASS.—Building occupied by Suffolk Furniture Co.	25
BATESBURG, S. C.—Batesburg Hotel, adjacent property	25
ATLANTA, GA.—Hanger of Beeler Blevins at Candler Fd.	100
OAKLAND, CAL.—Bldg. occupied by Right Way Furniture Co.	40
LOUISVILLE, QUE.—Factory of Manufacturers & Converters Co.	80
HULL, QUE.—Property at Bridge and Wellington Sts.	40
HENDERSONVILLE, N. C.—Henry Twiford property destroyed	25
HURFFVILLE, N. J.—Wagon factory of Frank Pearson	25
BAKERSVILLE, PA.—Two stores destroyed, others damaged	25
HONESDALE, PA.—Eagle building damaged	35
FOREST CITY, PA.—Store of Eugene Cooley destroyed	40
BOSTON, MASS.—Apartment bldg. at 335 Shawmut Ave.	65
LOUISBURG, N. C.—Store of L. Kline & Co.	40
CLEBURNE, KAN.—Musil bldg. destroyed	25
EL DORADO, KAN.—Refinery of Skelly Oil Co. damaged	40
BAYFIELD, WIS.—Ryder bldg. damaged	25
SALISBURY, N. C.—Property of Klumac Cotton Mills	70
LITTLE ROCK, ARK.—Bldg. of Davis Prieur Produce Co.	100
ONAWA, IOWA.—Store of Glen Danforth damaged	25

Week Ending March 14

TRAINER, PA.—Plant of Sinclair Refinery Co. damaged	350
CHAUVIN, ALTA.—Four buildings destroyed	40
SHELBYVILLE, IND.—Mill property of M. Cutsinger Co.	25
CHICAGO, ILL.—Garage of McCarthy Bros. Trucking Co.	125
GLENCOE, ILL.—Home of August N. Gatzert destroyed	80
POCATELLO, IDAHO.—Plant of Idaho Packing Co.	40
BROOTLEN, MINN.—Brooten opera house destroyed	40
BROOKLYN, N. Y.—Bldg. occupied by Va. Peanut Products Co.	25
CARBON, IND.—General store of Brown & Owens	40
RICHLAND, IND.—Property of Lake Milling Co.	25
DULUTH, MINN.—Lowell and Minnesota blocks destroyed	125
MARKINCH, SASK.—Business property detroyed	40
CANAAN, VT.—The Canaan House, H. C. Dunn, owner	40
COUNCIL BLUFFS, IA.—Elevator of Raven Mineral Mfg. Co.	50
N. FOND DU LAC, WIS.—Clohesy Hotel destroyed	40
GRAVENHURST, ONT.—Three business establishments destroyed.	150
YONKERS, N. Y.—Clubhouse of Dunwoodie Golf Club	25
TRENTON, N. J.—Store occupied by S. Lavinson	30
PLEASANTVILLE, N. J.—Mill of Best Silk Mfg. Co.	80
NEW BRITAIN, CONN.—Schupack block on Main St.	50
MORGANTOWN, W. VA.—Metropolitan Theatre damaged	30
TOPEKA, KAN.—Calvary Baptist Church destroyed	25
SYRACUSE, N. Y.—Warehouse of Syracuse Storage Co.	150
ENCOUCH, TEX.—Yard of Edcouch Lumber Co.	40
PANAMA CITY, FLA.—Two buildings destroyed	80
TROUP, TEX.—Cotton yard of Henry Ballew destroyed	40
ROCKYFORD, ALTA.—Grain elevator and 8 stores	80
ST. LOUIS, MO.—Garage—whse. of Tirre Transfer Co.	35
DERBY, CONN.—Bldg. of Home Furnishing Co.	65
WATERPROOF, LA.—Store of Herman Holdberg destroyed	40
MIAMI, FLA.—Bldg. of Miami Waste Materials Co.	25
MT. CLEMENS, MICH.—Mt. Clemens Savings Bank Bldg.	300
WASHINGTON, D. C.—Arlington Memorial Bridge damaged	40
MONROE COUNTY, IND.—Wilson Drug store, adj. property	40
HAMILTON, ONT.—Prperty of McGregor Shirt Co.	80
FRISCO CITY, ALA.—City school bldg. destroyed	25
CONNERSVILLE, IND.—First National Bank bldg.	250

Council Bluffs Department Undermanned.—According to a field engineer of the National Fire Protection Association, the fire department of Council Bluffs, Ia., is decidedly undermanned. The per capita fire loss has been put at $13.62

EASTERN REGULARS ARRANGE EXTENSIVE TRIP TO WINNIPEG

Tour Will Include Glacier Park, Waterton Lakes, National Park, Banff and Lake Louise—Time Schedule of Special

IN ACCORDANCE with a custom established by Frederic E. Bensen, a special train has been arranged to carry the "Eastern Regulars" to the convention of the International Association of Fire Chiefs, which will be held this year at Winnipeg, Canada. This year marks the sixteenth annual tour that Mr. Bensen has conducted. The following is taken from the preliminary itinerary:

Frederic E. Bensen

"We feel that we have arranged a very fine vacation trip. Those who took the trip with us in '22 will remember the excursion into Glacier Park. At that time the Park was only opened for fifty-five miles. Since then, additional roads have been built which allow us to go clear through the Park by automobile, across the Canadian border into the new Canadian National Park, known as Watertown Lakes Park. From there we take in wonderful Banff and Lake Louise."

"For further information, address Frederic E. Bensen, Room 2303, Chanin Building, 42nd St. and Lexington Ave., New York City, N. Y."

The trip to the convention and the return journey have been arranged as follows:

Thursday, August 28th
Lv. New York .....6:15 p.m.—Lehigh Valley R.R.
Lv. Jersey City .....6:30 p.m.—Lehigh Valley R.R.
Lv. Newark .....6:57 p.m.—Lehigh Valley R.R.

Lv. Philadelphia (Rdg. Term.)....6:15 p.m.—Reading Co.

Dinner in dining car.

Friday, August 29th
All meals in dining car.
Ar. Chicago.....7:30 p.m.—Mich. Central R.R.
Automobile sightseeing trip through Chicago by night, visiting the famous "Black and Tan Belt" and other foreign settlements.
Lv. Chicago .....10:00 p.m.

Saturday, August 30th
Breakfast in dining car.
Ar. Minneapolis .....10:30 a.m.
Sightseeing trip of the City of Minneapolis, returning to hotel for luncheon. Afternoon free. Dinner at hotel. Transfer to station.
Lv. Minneapolis .....11:15 p.m.—Gt. Northern Ry.

Sunday, August 31st
En Route. All meals in dining car.

Monday, September 1st
Ar. Glacier Park Station.....8:30 a.m.—Gt. Northern Ry.
Dinner in dining car.
Lv. Glacier Park.....8:45 a.m.—Automobile
Ar. St. Mary Chalets.....10:30 a.m.—Automobile
Lv. St. Mary Chalets.....11:00 a.m.—Launch
Ar. Going-to-the-Sun Chalets.....11:55 a.m.—Launch
Luncheon at Going-to-the-Sun.
Lv. Going-to-the-Sun Chalets .....2:00 p.m.—Launch
Ar. St. Mary Chalets.....2:55 p.m.—Launch
Lv. St. Mary Chalets.....3:15 p.m.—Automobile
Ar. Many Glacier Hotel.....4:30 p.m.—Automobile
Rooms with twin beds and bath assigned. Dinner at Many Glacier Hotel.

Tuesday, September 2nd
The entire day at Many Glacier Hotel.
All meals at hotel.

Wednesday, September 3rd
Breakfast at Many Glacier Hotel.
Lv. Many Glacier Hotel.....8:00 a.m.—Automobile
Ar. Prince of Wales Hotel.....12.00 noon—Automobile
Luncheon, dinner and lodging at Prince of Wales Hotel. Rooms with twin beds and bath assigned.

Thursday, September 4th
Breakfast at Prince of Wales Hotel.
Lv. Prince of Wales Hotel.....8:30 a.m.—Automobile
Delightful auto trip through Alberta, stopping at McLeod for luncheon.
Ar. Calgary .....5:00 p.m.—Automobile
Stop overnight at Hotel Palliser. Dinner at hotel.

Friday, September 5th
Breakfast at Hotel Palliser.
Lv. Calgary .....9:00 a.m.—Automobile
Ar. Banff .....12:30 p.m.—Automobile
Luncheon at Banff Springs Hotel.
Rooms with twin beds and bath assigned at Banff Springs Hotel. Dinner at hotel.

Saturday, September 6th
Auto trip around Banff in forenoon.
Breakfast and luncheon at Banff Springs Hotel.
Lv. Banff .....1:00 p.m.—Automobile
Ar. Lake Louise .....4:00 p.m.—Automobile
Ar. Lake Louise .....4:00 p.m.—Automobile
Rooms with twin beds and bath assigned at Chateau Lake Louise. Dinner at hotel.

Sunday, September 7th
All meals at hotel. In afternoon auto trip to Moraine Lake and the Valley of the Ten Peaks.
Lv. Lake Louise .....9:45 p.m.—Canadian Pac. Ry.

Monday, September 8th
En route through the prairie lands and wheat belt of Alberta and Saskatchewan.
All meals in diner.

Tuesday, September 9th
Breakfast in dining car.
Ar. Winnipeg .....8:15 a.m.—Canadian Pac. Ry.
Transfer to hotel provided.

Tuesday, September 9th to Friday, September 12th
At Winnipeg Convention of International Association of Fire Chiefs. Hotel accommodations and meals not included in cost of trip.

Friday, September 12th
Transfer to station provided.
Lv. Winnipeg .....5:10 p.m.
Dinner in dining car.

Saturday, September 13th
All meals in dining car.
Ar. Chicago .....7:30 p.m.
Lv. Chicago .....9:00 p.m.—Mich. Central R.R.

Sunday, September 14th
All meals in dining car.
Ar. Newark .....8:14 p.m.—Lehigh Valley R.R.
Ar. Jersey City .....8:42 p.m.—Lehigh Valley R.R.
Ar. New York City.....8:45 p.m.—Lehigh Valley R. R.

* * *

Upper Berth 1 Person	Lower Berth 1 Person	Compartment 2 Persons each	Drawing Room 2 Persons each
$315.00	$330.00	$350.00	$365.00

* * *

Connections for "Eastern Regulars" Special

8/28/30 Lv. Washington, D. C.....3:00 p.m.—B. & O. R.R.
Lv. Baltimore, Md. .....3:51 p.m.—B. & O. R.R.
Lv. Philadelphia, Pa. (Rdg. Term.) 6:15 p.m.—Reading
Lv. Bethlehem, Pa.....8:45 p.m.—Lehigh Valley—Spec.
8/29/30 Lv. Cleveland, Ohio .....8:00 a.m.—New York Central
Ar. Detroit, Mich. .....12:50 p.m.—Michigan Central
Lv. Detroit, Mich. ....1:35 p.m.—Mich. Central—Spec.
8/28/30 Lv. New Orleans, La.....8:00 a.m.—Southern Ry.
8/29/30 Ar. Cincinnati, Ohio .....8:50 a.m.—Southern Ry.
Lv. Cincinnati, Ohio ....9:40 a.m.—Pennsylvania R.R.
Ar. Chicago .....4:40 p.m.—Pennsylvania R.R.
Lv. Chicago .....10:00 p.m.—Spec.

Chief Kenlon Improving Rapidly

Chief John Kenlon, head of the New York Fire Department, who has been ill for the past several months, has made such improvement in his condition that he is now up and about the house. Doctors attending him say the Chief is well on the mend.

How to Flame-Proof Fabric

Tests were made by the British Fire Prevention Committee in flame-proofing fabrics, and flannelettes thus treated were found to have changed but little after twenty washings.

The process consists in steeping the cloth in a solution of three pounds of sodium stannate per gallon of water. After wringing and drying, it is passed through a solution of 1¼ pounds of ammonium sulphate per gallon of water used. After wringing and drying it is rinsed several times in running water and finally dried.

A less permanent treatment can be made by subjecting the cloth to a solution consisting of two pounds of ammonium sulphate and four pounds of ammonium chloride (sal ammoniac) in three gallons of water.

Sodium silicate is fairly effective for interior decorations where change of color or luster is not important. For this purpose, one volume of commercial water glass is diluted with one to five volumes of water, depending upon the kind of fabric and the degree of fire-resistant effect desired.

Pomona, Cal., to Have More Hydrants.—Forty fire hydrants are to be installed in Pomona, Cal.

Vallejo, Cal., to Erect Station.—Bids have been opened in Vallejo, Cal., for the construction of a fire station.

Work Rushed on E. Liverpool Station.—Construction is being rushed on the new fire station for E. Liverpool, Ohio. It is hoped to have it ready by April 1.

Ladder Truck Delivered to Haverford, Pa.—A new ladder truck, costing $10,000, has been delivered to the town of Haverford, Pa.

Fire House Opened in Pittsville, Md.—A new fire station has been placed in service in Pittsville, Md., one of the largest shipping points for strawberries.

Boston's New Fire Commissioner

Edward F. McLaughlin took office as Fire Commissioner of the city of Boston, Mass, on March 5. He was appointed by Mayor James M. Curley, and after some delay, was approved by the Civil Service Commission.

The oath of office was administered at City Hall by Assistant City Clerk John F. Hynes. The new commissioner then went to Fire Headquarters on Bristol Street, where he was greeted by Chief Daniel F. Sennott and the headquarters staff. There were many floral tributes with cards expressing good wishes for a successful administration. Mr. McLaughlin directed that the flowers be sent to the bedsides of eight injured Boston firemen who are confined to hospitals.

The new commissioner received a real "baptism of fire" as the night after he assumed his position he attended the

Boston's New Fire Commissioner at a Fire

From left to right are James J. Donovan of the Boston Fire Department and Edward F. McLaughlin, newly appointed Fire Commissioner, watching the four-alarm blaze in the Glover Hotel.

4-alarm fire in the Glover Hotel and had a chance to see the Boston fire department in action.

Mr. McLaughlin and family reside at 221 Pond Street in the Jamaica Plain section of Boston. He is a former state senator. He was elected to the Massachusetts House of Representatives in 1913, 1914, and 1915 and during the latter term served as Democratic leader of the House. He was elected to the Massachusetts Senate from the South End, and Roxbury in 1916. The following two years was elected from the 10th District. In 1916 and 1917 he also served as president of the Democratic city committee. Mr. McLaughlin served in the Boston City Council from 1919 to 1922 and was campaign manager for Mayor James M. Curley in the mayoralty contest last fall. In 1917 McLaughlin married Miss Helen C. Kane. The couple have four children, two boys and two girls. Mr. McLaughlin formerly studied music and is an accomplished pianist. He is a dealer in contractors' supplies. He will receive a salary of $7,500 a year as Fire Commissioner, anad succeeds Eugene C. Hultman who has been appointed building commissioner.

HARRY BELKNAP.

Derailment Causes Gasoline Fire

The following data, taken from the *News Letter*, of the Railway Fire Protection Association, gives interesting details of an unusual gasoline tank car fire caused by a derailment accident:

"Eastbound train with fifty-eight loads, one empty, inspected and exceptions noted on only one car, which had a worn brake head—this car set out and train departed 10:30 p. m.

"Derailment occurred at 3:10 a. m. next morning—106 miles east of inspection point. Speed of train at time of derailment not in excess of twenty-five miles per hour. Cause, brake beam of thirty-sixth car (box car) from engine catching east switch of crossover on eastbound main line; the west or rear truck of this car derailed and ran fifteen car lengths on ties to switch leading to industry track, where trucks of this car rerailed themselves and were on track when train was brought to stop.

"A car loaded with plaster, and another loaded with gypsum block (thirty-seventh and thirty-eighth cars from engine) were next derailed and one of these cars collided with car containing 10,045 gallons gasoline standing on industry track above referred to, awaiting unloading, and which was immediately adjacent to eastbound main line.

Nine cars following in main line train contained refined oil, naphtha, fuel oil, lubricating oil, lubricating oil, gasoline, cotton seed oil foots, gasoline, gasoline respectively, were derailed and were thrown promiscuously over both east and westbound main lines within a distance of approximately 400 feet.

"The collision of the derailed box car (steel under- and steel upper-frame) with gasoline car on industry track resulted in cutting a large gash about two feet long and four inches wide in the lower west end of this tank car, releasing 10,045 gallons of gasoline, vapors therefrom immediately becoming ignited, probably by friction sparks. According to statement of train crew and crossing flagman, fire immediately shot high in the air and spread to the plants of the Oil Corporation, the other Oil Company and the Lumber Company—these industries being served by track immediately adjacent to eastbound main line on which track at the Oil Corporation plant the loaded tank was standing, delivery of car having been made to the Oil Corporation by the Railway Company four days previously, it is stated.

"From the evidence developd in the investigation opinion is that brake rigging failure was caused as follows:

"One of the brake hanger key bolts became dislodged and this permitted beam to drop down on the support; braking thereafter naturally put a stress on the support due to hanger missing. Bottom end of brake lever would be the first part of rigging to come in contact with ties; stress no doubt continued to pull support down until beam was dragging heavily and tore connection loose on opposite side.

"As to last previous inspection of train:—Inspectors were experienced men—one having had three and one-half years' service, the other six years' service with railway company as car inspectors. One of these men inspected north side of train—the other south side, and it has been impossible to determine which hanger first came down, due to the fact that there were three missing when car responsible for the derailment was inspected subsequent thereto. Operating officers are not disposed to recommend discipline insofar as inspection of train is concerned, and investigation revealed that members of the crew gave their train every possible attention en route to point of derailment where service stops were made meeting passenger trains, and to take on fuel and water.

"Railway company's loss fully covered by insurance, both as to wreck and fire damage insofar as tank cars and their contents are concerned; this also is true of the two box cars involved, except as to contents thereof. Wreck insurance was purchased (also fire) on all rolling equipment, but contents thereof (except petroleum and its products in tank cars) are not covered as to wreck damage, and in adjusting loss as between wreck and fire on contents of car of plaster agreed to a 50-50 division, on the car with gypsum block, 60% fire and 40% wreck.

"The fire shows the necessity of locating tracks for loading and unloading gasoline as far as possible from main line tracks (some roads require fifty feet clearance from passenger carrying tracks for ordinary refined gasoline and one hundred feet for casinghead), and also the desirability of not having other industries on same tracks as gasoline companies."

Pumper Delivered to Groveton, Tex.—A 500-gallon pumper has been delivered to Groveton, Tex.

ITINERARY ANNOUNCED FOR FIRE CHIEFS' SPECIAL TRIP

Tour Will Include Stops Going and Returning from Winnipeg, Canada—Interesting Trip on Great Lakes Part of Journey

A SPECIAL train known as the Fire Chiefs' Special will leave New York City September 5, bound for the convention of the International Association of Fire Chiefs, to be held in Winnipeg, Canada. The trip is being sponsored by the American-LaFrance and Foamite Industries under the direction of A. R. Brown. He writes:

Abe R. Brown

"If you are going to the convention this year we would be more than pleased to have you join our party.

"As you know, last year's trip which I arranged was a success, and everyone had a wonderful time to and from the convention. I feel that the trip arranged this year will be equally successful. I would suggest that you write to me immediately and advise just what reservation you desire."

According to present plans, the train will leave New York City Friday, September 5 at 10 p.m., and will arrive in Winnipeg Monday, September 8 at 8:35 p.m. Stops will be made, after leaving New York, at Albany, Utica, Syracuse, Rochester, Buffalo, Toronto and Port McNicoll. The letter continues:

"Upon arrival at Port McNicoll at 4:30 p.m. September 6th we will board a palatial C. P. R. steamship for Fort William, the great grain port on the northern shores of Lake Superior. Our steamship will take us through lovely Georgian Bay, noted for its deep blue waters and numerous wooded islands, which are at their loveliest at this particular season of the year. This gorgeous northern country is the paradise of hunters and fishermen and is the happy hunting ground of the giant lake trout.

"Our steamship route takes us from the Georgian Bay Country, across a portion of Lake Huron and through the famous locks at Sault Ste. Marie, bringing us out on the broad expanse of Lake Superior, the greatest of inland waters.

"We arrive at Fort William, completing a lake voyage of two nights and one full day.

"Our journey from Fort William to Winnipeg will be continued by train through interesting wild northern country, with arrival at the Convention City at 8:35 p.m. September 8th.

"The return trip is planned for 7:30 p.m. Friday night, September 12, with breakfast the following morning at one of the famous C. P. R. Hotels at Fort William. From this point the entire party will be transferred by bus to Port Arthur, through beautiful scenic Canadian country.

"After leaving Port Arthur another enjoyable stop will be made at French River, a mecca for wealthy sportsmen. Breakfast will be served at the Bungalow Camp and an enjoyable three hours will be allowed for sightseeing and enjoyment of the entrancing scenes which this beautiful country offers.

"The trip will be continued from French River to Toronto by train, leaving at 10 a.m. on the 14th and arriving at destination at 4:45 p.m. September 14th. We will spend about three hours in Toronto, and before leaving dinner will be served in the new Royal York Hotel. At 7:45 p.m. we leave for Buffalo.

"We will then start the final lap of our journey at 11:15 p.m., arriving in New York, Grand Central Station, on Monday, September 15th, at 9:24 a.m.

"The total expense for this trip from New York City, including railroad and steamship fare, sleeping accommodations, all meals enroute and sightseeing trips, is as follows:

Upper Berth from New York to Winnipeg and return..$139 ea.
Lower Berth from New York to Winnipeg and return..$144 ea.
Compartment (for two) from New York to Winnipeg and return .....$161:50 ea.
Drawing Room (for two) from New York to Winnipeg and return .. ..$170.50 ea.
Drawing Room (for three) from New York to Winnipeg and return.....$149 ea.

"Of course you understand that this cost does not include your hotel or expenses while at the Convention in Winnipeg."

Association Being Organized in California—Steps have been taken by Compton, Cal., for the formation of a district firemen's association for the southern portion of Los Angeles county. Invitations have been sent to the fire departments of Bell, Bellflower, Beverly Hills, Culver City, Downey, Graham, Hawthorne, Hermose Beach, Huntington Park, Inglewood, Lawndale, Lynwood, Manhattan Beach, Maywood, Norwalk, Redondo Beach, Santa Monica, Signal Hill, South Gate, Torrence, Dominguez, Vernon and Walnut Park. Los Angeles and Long Beach were not included, as they are considered large enough to have organizations of their own departments.

WELL CONDUCTED FIRE DRILLS ESSENTIAL IN EVERY SCHOOL

Some Suggestions for Fire Department Inspectors' Use in Their Visits to the Schools—How Best to Arrange Such Drills

By CLAYTON BARGREN
Fire Alarm Office, Rockford, Ill.

THE following suggestions as regards fire protection in the schools and especially in connection with the matter of fire drills in such institutions, will be found of considerable value to Fire Department Inspectors, in their rounds among the schools of their city or village:

The most terrible of all fires is that in the school, imperiling as it does the lives of those dearest to us all. It is wonderful, to see the trusting faith of the children in our schools, who rely only on the teacher's orders to evacuate their classrooms in time of fire. They need absolute confidence and respect in their teachers, so that they will carry out any given order in time of stress. Coats, hats, money, and books must be left behind, and the hands free to grasp other hands, or fire escape and stair railings. In this way, stumbling and disjointed lines will be avoided. Teachers should step to the door and lead their class, so that if their regular exit is cut off they may reroute to other exits. An efficient school fire corps is essential.

First of all, two pupils must be assigned to each exit to open and hook each door, and stay there to prevent jams; a pupil to play the piano or phonograph; two pupils to help each crippled child; a boy and girl on each floor to notify toilets; a pupil in each class to see that all are leaving the room. Everyone is compelled to leave the building at "Fire Drill."

The signals for "Fire Drill" should be the same in all schools. They should be able to be rung from any floor and basement, and heard in every room and part of the building. Should pupils exit the building from other than their own classrooms, they should immediately report to their own teacher. When all pupils are out, they should remain in line until checked over by the teacher. Missing names should be taken and given to the principal. Under no circumstances should the building be re-entered, except by teachers working in pairs. Teachers and pupils must watch carefully for anyone who falls in the hallways, stairs, or doorways, as this means a serious jam unless he is removed. Light smoke is not injurious and is safe to go through with hands joined, if you can see where to go. The main thing is not to become panicky when smoke is seen.

Basement boiler-rooms are the most dangerous fire hazards with the attendant refuse, because smoke and flame follow the stairways, unless the lower door is closed to shut off the draft.

It is well to have a school fire captain, whose duty is to see that all panic bolts are in working order, door hooks in good condition, fire escape drops free, refuse in the building cleaned up, and to take his position outside of the building in fire drills to see that all doors are properly kept open. He should make his reports daily to the principal.

The burning of a school is doubly serious, in view of the fact that loss of life usually occurs, unless pupils are handled properly, and that schools are built by taxation of the people.

The crowded conditions of our schools today is more alarming from a fire standpoint, than from a scholastic, and new and more schools should be built to handle these serious problems.

Montclair, N. J., to Buy Pumper.—Montclair, N. J., is to purchase a Mack pumper for $13,000.

Reading, Pa., to Buy Pumper.—Reading, Pa., is to purchase a 500-gallon pumper and the city machinist was instructed to prepare specifications.

Dubuque, Ia., Has New Car.—Chief J. W. Fisher, of Dubuque, Ia., is now responding to fires in an eight-cylinder, five-passenger Packard sedan. It is equipped with shatterproof glass.

Seattle, Wash., to Erect Fire Station.—Bids have been invited for the construction of a fire station in Seattle, Wash., estimated to cost $56,000. Plans and specifications have been prepared by Frank Baker, architect. The building will be three stories high, of fire-proof construction, covering an area of seventy-two by sixty feet. It will house Engine No. 17.

Eleven Montana Towns Standardized.—Eleven towns in Montana have had their fire hose threads rechased to conform to that of the National standard. Those standardized are Helena, Great Falls, Deer Lodge, Missoula, Stanford, Havre, Cascade, Anaconda, Boulder, Galen and Warm Springs.

The Mansion House Fire

(*Continued from page 232*)

fire on the first floor a quick dash of water and then direct the stream up the stairwell to keep the fire from mushrooming on the top floor. Following this, advance up stairway with line. Stretch second line in after the first to kill remaining fire,—third line where needed, either to top floor or by way of ladder, or to rear of the

When the Fire Travels Quickly to the Roof

Where vertical shafts, such as dumbwaiters, pipe or vent are present, fire starting in a basement quickly reaches the attic, and the roof is promptly involved. As a matter of fact, no matter at what point a fire may start in a large frame dwelling, it is apt to reach the top floor almost immediately, and penetrate through the ceilings to the attic, and then to the roof. This illustration shows two mansions destroyed by fire in San Francisco in 1916.

building. Have roof scuttle and skylights opened as soon as possible.

If neither scuttles or skylights are present, have men open up the roof with axes, operating from ladders. This is most essential in order to relieve the heat and condition on the top floor and to prevent further spread of fire by mushrooming.

There is generally a glass cover under skylights over stairways, where the roof of the building is flat. Where there is once a skylight and a glass cover beneath it, be sure to open the glass.

Pay particular attention to pipe and other recesses! also to dumbwaiter shafts and other vertical ducts through which fire may travel.

In private dwellings recesses are seldom fire stopped and the fire may travel quickly from floor to floor through them.

Opening up the roof of the building, to provide ventilation and to get lines in operation probably accomplishes the greatest effect in holding a fire. As soon as the roof is opened up, if fire is rising in dumbwaiter shafts or other space into which the heat is discharged from the and thus retard its spread through the blind attics, or other space into which the heat is discharged from the vertical shafts.

Hose Reel Recovered for Fireboat

The North German Lloyd liner "Muenchen" which sank to the bottom of the Hudson River at the foot of Morton Street, New York City, on February 11th, following a fire and explosion, is still a problem to the salvaginig corporation that has the contract to raise her.

While much of her cargo has been removed and stored ashore, it is now feared that the ship might have to be burned apart in sections, due to enormous rents in her hull caused by the explosions which occured while her cargo was afire. Although divers have been working in and about the vessel for over a month, little material progress has been made toward lifting her. To build a cofferdam around the boat and pump her out would be to invite serious complications due to the presence of the Hudson and Manhattan railway tubes directly underneath the position of the sunken steamship. It is a matter of conjecture whether the twenty-odd-year old tunnels will be able to withstand the weight of a cofferdam, plus the weight of the hulk of the "Muenchen." The tunnels carry thousands of persons hourly between New York City and the State of New Jersey.

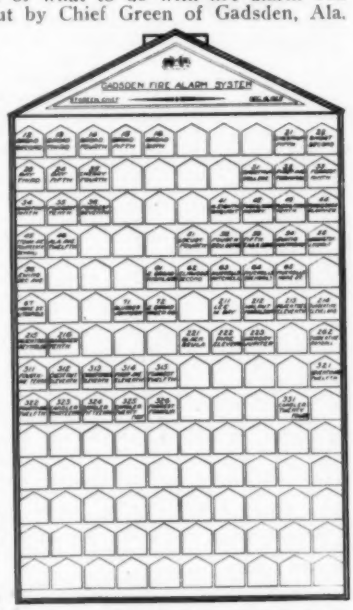
As yet, the body of Gustav Francke, third electrician of the ship has not been recovered. He is the only member of the crew missing and it is not definitely known whether his body is in the ship or in the Hudson River. The Merritt-Chapman-Scott Wrecking Co., which has a contract to salvage the ship, has recovered from the river-bed the hose reel and hose of the fireboat "Thomas Willett' which was blown overboard by the same explosion that killed Pilot John J. Harvey of the fireboat. The recovery of this hose reel will save New York about $1,000 for the wrecking company is not claiming any salvage from the municipality.

The salvage company faces an unusual problem. The proximity of the railway tunnel below has somewhat retarded the wrecking company's speed and its ordinary procedure in such situations.

WM. JEROME DALY.

Attractive List of Box Locations

Here is a suggestion of what to do with fire alarm box numbers, as worked out by Chief Green of Gadsden, Ala. It was prepared by the municipal engineering department. The box numbers are arranged in order, and where certain number boxes have not been installed, the space on the board is left blank. In this way it is possible to add additional fire alarm boxes to the system without reconstructing the board.



Fire Alarm System Board

Cats Tabooed by Chief

Judging from his annual report, Chief David H. DeCourcey of Winchester, Mass., is not a lover of cats. In commenting upon the calls sent to the department and the type of service rendered, he said:

"We welcome these calls for our services when people are in doubt as to whom to call, except in cases of cats in tree tops. It seems to be the sentiment that this situation could better be taken care of by the sharpshooters in the police department."

Last year the department answered the following calls outside of regular alarms: Persons locked out of their homes, 7; broken water pipes, 1; water leaking in house, 2; automobile in pond, 1; cats in trees, 6; boys rescued from sinking boat, 1; drowning accidents, 1; leak in ammonia pipes, 1; horse in well, 1; horse down on slippery street, 1; blue jay in house, 1; automobile accident, 1; squirrel in chimney, 1.

HARRY BELKNAP.

Apparatus Delivered to Ferndale, Pa.—Fire apparatus has been delivered to the borough of Ferndale, Pa.

La Canada, Cal., to Have New House.—Work has been started on a new fire house for La Canada, Cal. It will be completed in April.

Here Is Real Labor of Love.—Chief O. F. Fisher of Ellensville, N. Y., has refused to take any pay for his work, and in addition he provides his own uniform and equipment. He and his firemen have also raised funds for the purchase of fire apparatus. In the past year he has answered twenty-four alarms but the total fire loss has only been $970. Chief Fisher has been in the volunteer fire department for forty-five years.

Fire Companies Housed in Borough Hall

The fire department of Westwood, N. J., has commodious quarters in the new Borough Hall just completed. The building is seventy feet square and is placed on a lot eighty-five by 150 feet.

The building is of Colonial design, constructed of Colonial brick and trimmed with limestone. The entrance steps and base are of granite. On either side of the doorway are two arched doorways for fire apparatus. The apparatus room

Borough Hall Completed in Westwood N. J.

occupies the full width of the building and is fifty feet in depth. The walls are finished in glazed terra cotta, the upper part of which is in ivory and the lower dado in green.

There is a large recreation room for the firemen in the rear part of the building, and also a kitchenette. Immediately adjoining this is a locker room with closets for each fire company. On the other side of the building has been provided a station for the Pascack Valley Nursing Service, equipped with hospital appurtenances.

From the front of the building there is a wide staircase leading to the second floor and to the center portion of the building.

The second floor contains a large court room, offices of the court clerk, judge's chamber, jury room, borough offices, office of the Board of Health, and the tax collector, and a council chamber.

The Police Headquarters have been provided in the rear of the basement. There is a driveway along the side of the building leading to a court yard at the rear. The headquarters will consist of a station room, recorder's room, detention room, and a jail.

The other half of the rear of the building will contain the borough garage. At the front portion of the cellar a fireproof vault has been installed for the permanent storage of records, and the remainder of the cellar space at the front will be used for storage, fire alarm system, and for any other need that may arise.

The building was designed by Robert Jahelka, architect, Westwood, N. J.

Dewitt, Ia., May Buy Apparatus.—A meeting was held in Dewitt, Ia., to consider the purchase of fire apparatus.

San Mateo May Have New Fire Alarm.—Plans are being made for the first unit of the fire alarm system for San Mateo, Cal., to consist of fifteen boxes in the downtown district.

Racine Firm Against Station.—Despite a petition to which three thousand signatures were affixed, the mayor of Racine, Wis., stated that the West Racine district could not have a fire station this year because the city funds are low.

EXTINGUISHMENT ONLY ONE OF MANY DUTIES OF THE FIREMAN

Relative Importance of Fire Prevention —Importance of Building Inspection in Work—Knowledge of First Aid Needed

By DISTRICT CHIEF GEORGE WARD
Fire Department, St. Louis, Mo.

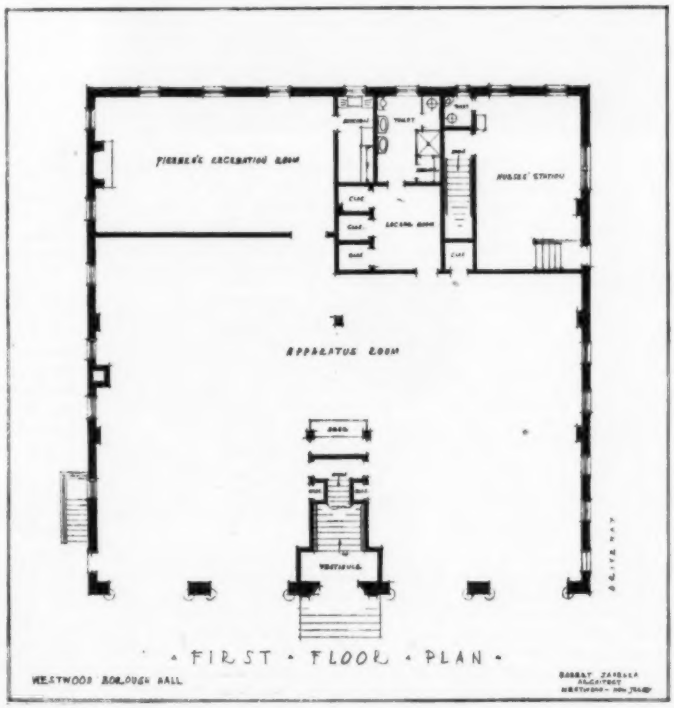
IT is your duty as a fireman, having been duly appointed to the position, to protect the public's life and property from fire. You undoubtedly learned, however, soon after joining the department, that extinguishing fires is just one of the many things you are expected to do.

You must be prepared to serve in many capacities, insofar as there are a considerable number of duties not coming under any specific branch of the municipal government that are assigned by the city to your department. Most cities today have the Drill School, where the recruit is taught the use of fire department equipment and appliances. These schools are generally under the supervision of officers who were previously assigned to similar training schools in other cities where such schools have been established for some time, thus assuring the highest calibre of talent in the education of the students in this most important civic service. The course the recruit is made to take soon teaches him that his position as a fireman is not going to be an easy one, and the man who is looking for a "snap" finds he has shouldered a real man's-size job for his life's work.

Relative Importance of Fire Prevention

As mentioned before, fire fighting, in itself, is but one of the many tasks performed by the fireman. Many chief officers, today, consider fire prevention as one of the department's most important duties. While there is no definite way to accurately check the number of fires prevented through this activity of the Department, it is a known fact that losses have been materially reduced in the last few years, and a great deal of credit therefor is given to the Fire Department which plays a major part in the city's efforts toward averting possible losses by fire. As an example, the department of which I am a member, last Fire Prevention Week, sent forty-eight firemen to deliver talks on fire prevention in schools, to parent-teacher organizations, mother clubs

(*Continued on page* 254)



First Floor Plan of the Westwood Borough Hall

INDUSTRIAL PLANT PROTECTION

FIRE BRIGADE DOES GOOD WORK IN CAST IRON PIPE FOUNDRY

Volunteer Firemen Working in Plant of United States Pipe & Foundry Company Keep Losses Down to a Surprisingly Low Figure

THE need of an adequate fire fighting organization in an industrial plant cannot be over-emphasized. Even when the plant enjoys the advantage of efficient fire fighting apparatus of an up to date municipality, it is imperative to possess a plant organization to locate what fires arise, confine their activity and protect the lives of those persons in close proximity to the scene of the fire. For those plants which are remote from the metropolitan areas, an efficient fire fighting organization sufficiently well equipped to cope with any local conflagration, is an absolute necessity.

There has always been an organization to combat conflagration in the Burlington Works. The late A. H. McNeal, who first erected a shop at Bur.ington, built a small stone building in the works to house the apparatus then available. This stone building is still used for this purpose. The apparatus then consisted of two hose carts carrying 400 feet and 300 feet respectively of 2½-inch hose and a few soda-acid extinguishers. Some men were paid extra to act as a volunteer fire department and were notified of the location of fire by a messenger.

This condition prevailed until October, 1909, when the Resident Manager, who was familiar with the value of a well organized and drilled department, appointed W. B. McLean to be Chief of the Fire Department. Mr. McLean was instructed to organize the department and to make of it a first class fire fighting unit.

Fire Company at the Burlington Plant of the United States Pipe & Foundry Co.

The first requirement was an alarm system which would obviate the necessity of notifying the volunteers by messenger. Seven electrical alarm boxes were installed on a closed circuit and the alarm system was put into operation early in the winter of 1910. The larger of the two hose carts was renovated and by the summer of 1910 had been equipped with two 2½-gallon soda-acid extinguishers, two one quart carbon-tetrachloride extinguishers and the necessary lanterns, axes, rope and accessories to completely equip the fire fighting unit. In 1911 helmets and rubber coats for the six men then comprising the unit, were added to the stock of equipment, and the unit thus organized operated until August 1928.

During the period from 1910 to 1928, considerable expansion had taken place within the plant. Equipment had been added, new buildings erected and old ones enlarged. So when the Neptune Hose Company of Burlington acquired their new American La France pumper, in August 1928, and donated to the pipe company their motor hose wagon, it was a welcomed addition to the pipe company's unit. The new motor wagon was equipped with 600 feet of 2½-inch hose, a 12-foot roof ladder and a 24-foot extension ladder, besides a complete stock of auxiliary accessories to completely equip the unit for action of the most advanced type.

The alarm system was also extended to include a total of fifteen boxes in convenient locations about the plant, one of which is automatically tripped from Grinnell Sprinkler in the Pattern Shop. The system is operated by a storage battery of 16 cells thus insuring continuity of service in the event of a power shut down.

The water connections were also improved so as to give three separate and distinct systems. One system is supplied by the City of Burlington through a 6-inch cast iron pipe line and supplies 12 hydrants; another is an 8-inch and 6-inch line within the plant with 9 hydrants; and the third system is an 8-inch plant line supplying 5 hydrants. The last two lines may be operated at "high pressure" if need be. There are also a number of standpipe outlets with hose attached. Distributed through the plant are 30 carbon-tetrachloride extinguishers, one 40-gallon Foam engine, four 40-gallon soda-acid engines and a number of foam and soda-acid extinguishers.

The unit has been enlarged to ten men who reside near the plant and answer all alarms whether at night or during the day. The department guards about 200 acres and enjoyed the satisfaction of keeping the fire loss to $300 in the past twelve months during which time they responded to 48 alarms.

The method of notifying the volunteers that their services are required is by the plant whistle. Each box is numbered and the corresponding number of whistles is blown preceded by a siren. A long blast later denotes the fire to be extinguished. Four alarms may be blown. The first calls for the unit; the second calls for high pressure water on the lines; the third summons all the plant employees and the fourth calls the Burlington apparatus. Due to the efficiency of the unit, there are few occasions for more than one alarm.

FACTORY FIRES MORE SERIOUS THAN THOSE IN STORES

More Employees Are Thown Out of Work and the Losses Are Much Heavier —Safeguards Adopted Against Fires

By C. L. BARGREN
Rockford, Ill.

FACTORIES of all kinds, with their thousands of dollars invested in buildings, special machinery, and material, and additional thousands in immediate and future delivery orders are, or should be, the most relentless of all organizations in eliminating fire hazards, and should be heartily in accord with the Fire Prevention Bureau's poliices.

Factory fires are ten times more serious, as will be readily seen, than are fires in business stores, due to the fact that they are owned by a larger number of stockholders, and employ possibly hundreds of people. The blow is felt in each one's pocketbook, to the consequent lack of purchasing power, which in turn is immediately felt by the merchant and business owner in the city. A disastrous fire throws the employee out of work, possibly depriving his family of the necessities of life, which puts an additional burden on all city welfare organizations.

Loss in Skilled Employees Heavy

The loss in skilled workers and valuable employees may be an irreparable one, because, if they are valuable to the firm involved, they are also of value to its competitors. When a firm manufactures tools or merchandise it has machinery especially adapted to its own particular use, and it is not easily and quickly duplicated. Factory space is not available at once for continuation of business, nor does weather always permit new building operations. These things call for serious thought by the plant superintendent and owner.

The employee must realize that he is in for serious hardship personally, by permitting hazards or carelessness to exist in his department. Carelessness on any one's part is considered criminal negligence, in cases where loss of life is directly due to

fire caused thereby, and stands in court as second degree man-slaughter, on an equal basis with arson.

Should Consult Bureau of Fire Prevention

There are factory owners who do not realize the results which can be obtained by consulting the Bureau of Fire Prevention on any problem of fire, yet all of these owners want fire protection. It must be realized that eliminating fire hazards from the factory is the biggest step in safeguarding that plant against fire, and it's resultant financial loss. It should also be remembered that this elimination policy means a proportional reduction in fire insurance rates.

No Dividends Paid When Factory Wheels Stop

No dividends are paid when the wheels of the factory stop. Sinking funds are depleted, and any immediate recurrance of calamity will find some stockholders wiped out. Think of those thousands of dollars in delivery orders on the books for period type merchandise. There may be some orders that the firm involved has not specified its inability to fill through fire causes and it will be in duty bound to do so regardless. Its consignments will be coming. The interest must be met on outstanding notes. Salesmen cannot sell your products, when they do not know when manufacturing will be resumed, nor what production costs will be.

Factories located just outside the city limits must realize, that apparatus from the city cannot respond with the full combating strength, because of depriving the city of its own protective equipment. Use of city water mains for fires outside the city is just a matter of courtesy, and can be withheld, even though a charge is made for fire apparatus. Chemical and dangerous hazards peculiar to the manufacturing involved should be studied out. Up-to-date protection methods should be instigated in caring for new hazards, developing through our rapid industrial progress.

Some of the larger factories have a fire chief and equipment to maintain inspection and fire efficiency, and to give advice and instruction to their organizations. These factories, to a high degree, are guaranteeing themselves against cessation of business by fire.

Industrial Fire Chiefs Change Rules

The Industrial Fire Chiefs Association of Wilmington, Del., has amended its rules so that any plant in the state of Delaware may become a member. The association was organized November 15, 1927, and its members are the chiefs, assistant chiefs, and other officers of the many industrial fire departments in Wilmington.

The association was formed to bring about an exchange of ideas on fire prevention and fire fighting, and a closer cooperation among the industrial plants. The association is supported by the various plants with the small fee of five dollars a year.

Meetings are held at the office of Chief William J. Lutz, Wilmington, the first Thursday of each month. During the year the association assists in observing Fire Prevention Week. During Fire Prevention Week seven prizes were offered for the best essay on that topic, and, when the contest closed, 1876 essays had been received.

Watchmen were instructed in fire duties and in the operation of fire equipment. Ninety watchmen attended the first meeting called. Upon request, officers of the Wilmington Fire Department are sent to the various plants to instruct members of the industrial department.

Whitehouse, N. J., to Build Fire House—A new fire house will be erected in Whitehouse, N. J.

St. Paul to Erect Fire House—Contracts have been let for the construction of a fire house in St. Paul. The city architect estimated that the building will cost $30,700.

Indianapolis Firemen Must Stay on Duty—An order has been issued to ranking officers in Indianapolis to enforce a regulation prohibiting firemen from leaving quarters while on duty.

Davenport Firemen Working for Increase—Firemen of Davenport, Ia., are working for a pay increase of fifteen dollars a month. Committees have been named to direct the campaign.

Odebolt, Ia., Buys Apparatus—"Universal" fire apparatus manufactured by the W. S. Nott Company has been ordered by Odebolt, Ia. It is equipped with a forty-gallon chemical tank.

Cincinnati Wins Fire House Suit—The Supreme Court has decided in favor of Cincinnati in the action brought by a resident to prevent the erection of a fire station in a particular district. The city will erect a building along bungalow lines. The property required will be condemned by the city.

New Rescue Cars Used in Boston

Two new Rescue Cars mounted on standard Federal chassis have been placed in service by the Boston Fire Department to replace old hose wagons formerly used.

These new cars for Rescue Company No. 1 and Rescue Company No. 3 are a distinct innovation, representing as they do an entirely new idea in fire apparatus.

In appearance they somewhat resemble ambulances, having enclosed bodies to protect the men from stress of weather and cold while responding to alarms.

Painted a bright red and equipped with sirens and bells, the new cars are distinctive and commodious, affording comfort for the men and ample space for stowage of first aid equipment.

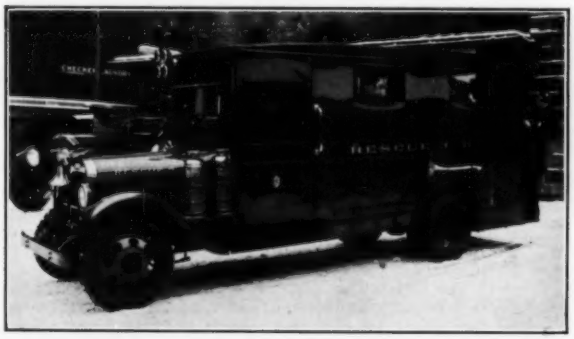
The design of the cars was worked out by Fire Commissioner Eugene C. Hultman in conference with Chief Daniel F. Sennett, Supt. of Maintenance Edward E. Williamson and James F. Ryan, Engineer of Motor Apparatus, B.F.D.

The truck is equipped with a 6-cylinder red seal motor and has a 152-inch wheel base. Lockheed four-wheel hydraulic brakes are used. There is a four-speed drive and the weight of the car fully loaded is 8,100 pounds. Goodyear balloon truck tires are used with double rear treads.

The length of the machines is 21 feet overall, height 8 feet, 8 inches, and width 6 feet, 5 inches. The inside dimensions are as follows: length, 10 feet, 4 inches; width, 5 feet, 7 inches; and height, 5 feet, 6 inches.

The cars can accommodate twenty men each and could be used in carrying firemen on calls to aid outside cities. They are also easily convertible into ambulances.

There are seats around the inside of the cars. Doors open from outside so that the equipment which is carried in lockers beneath the seats may be removed from outside without the necessity of climbing into the cars over the rear step.



New Type Rescue Car Used by the Boston Fire Department

The car bodies were built by the Perrin-Walsh Company, of Boston. Whiting red flashing traffic signals are mounted on the front of the enclosed driver's cab.

The following equipment is carried by each of the rescue companies: ten Burrill all service gas masks, four Draeger smoke helmets, one inhalator, one oxy-acetylene cutting outfit, one elevator emergency jack and tools, rubber gloves and Ever Safe high voltage wire tongs, first aid kit, stretchers, life net, life lines, axes, rakes, Wheat helmet lights, door openers, jimmies, and crow-bars, soda and acid extinguisher, foam extinguisher, Voleske shears for cutting steel bars, metal saws, wood saws, brace and bitts, and miscellaneous tools.

Rescue Company No. 1, located in the Central Fire Station on Broadway, is commanded by Captain Daniel J. Hurley. The lieutenants are Harry M. Dolbeare and James T. Cronin.

Rescue Company No. 3, at present situated in Charlestown pending completion of the new firehouse in Bowdoin Square, is commanded by Captain James F. Sheehan. The lieutenants are Patrick E. Collins and Andrew F. Larsen.

It is probable that eventually Rescue Company No. 2 will be equipped with one of these new type cars in place of the hose wagon with foam tanks which is in use at present.

HARRY BELKNAP.

Woodbridge, N. J., Against Fire Alarm.—Woodbridge, N. J., voted against the plan to install a new fire alarm system at a cost of $30,000.

Avoca, N. Y., Wants New Fire Alarm.—Firemen of Avoca, N. Y., are working to obtain a new fire alarm system for the village.

The Round Table

(*Continued from page 234*)

I believe this scheme to be more effective than talking direct to older people. Our talks are always presented in understandable language. Frequent fire drills are also held.

D. A. Kincade, Independence, Mo.: It is not our practice to talk to the school children but our schools hold weekly fire drills. I believe the drill work to be very effective.

B. J. Loonam, Jr., Chief, Freeport, N. Y.: Up to the present time we have not made it a practice to talk to school children on fire prevention subjects, but I believe such a plan to be an excellent idea.

Karl R. Adams, Chief, Alma, Mich.: I have on several occasions talked to the school children on the dangers of fire and prevention measures to avoid occurrence of such. Such talks I believe, should be presented at regular intervals throughout the school year.

J. J. Gilday, Chief, Hoboken, N. J.: We have abandoned talking to school children on fire prevention matters as there seems to be little or no effect from so doing.

Harry W. Parker, Newark, N. J.: We have never carried out a program of giving talks to school children, but expect to inaugurate such in the near future.

I. R. Wilson, Chief, Madison, N. J.: It is our practice to visit the schools twice a year, (October and March) to give fire prevention talks. We believe this plan to be very effective.

Thomas Watson, Chief, Lincoln, Ill.: Department activities include talks to school children at periodic intervals throughout the school year. I believe such a practice to be beneficial to all concerned.

F. A. Tenney, Chief, Braintree, Mass.: We are not at present giving talks to school children, but expect to inaugurate such a policy with the beginning of the next school year in September 1930. I believe it is a great plan.

Answers to Previous Question

C. W. Ringer, Chief, Minneapolis. Minn.,: When a telephone or still alarm is received by our operator, he in turn transmits it to the truck and engine company nearest to the location of the fire, sending six blows on the horn attached to the department telephone.

In the high value district, two engine companies, one truck company and one squad company with a captain or lieutenant in charge of each company are sent in response to such alarms. A Battalion Chief also responds.

In the residential district, one engine company, one truck company and the same officers and battalion chief are sent as in the case of the high value district.

Alarms received from stations are at once transmitted to the operator and he in turn handles them in the same manner described.

Geo. Vanzant, Chief, New Castle, Ind.: Telephone alarms received by this department which are to be answered as still alarms, are transmitted to the proper station by private telephone, and are taken care of by that particular station. The company upon its return reports by phone to headquarters station.

Alarms received at the central station by phone are transmitted to substations and to the water department by means of our alarm system. We have at headquarters station an instrument case containing a duplicate for each and every box code wheel in the city. Upon receipt of a call by phone (unless it is to be a still alarm) the wheel corresponding to the box nearest the place of the fire is placed on the machine in the case and the machine set in motion. This operation sounds the alarm over the entire system the same as if the party calling by phone had pulled an alarm box.

Wm. F. Hall, Chief, Plainfield, Conn.: As our community is not equipped with a fire alarm system, practically all fire calls come through the telephone exchange. Upon being called to transmit an alarm, the operator obtains the location of the fire and its nature. She immediately calls the fire station giving the information received, and if advisable, calls the factory boiler room to sound an alarm. A coded signal is then blown on the factory whistle which gives the approximate location of the fire.

If the fire is believed to be a small one, the officer in charge at headquarters hastens to the fire with a light truck and several men. If upon arrival at the fire it is found that the fire is of greater proportions than can be handled by the crew and apparatus responding, a second call is put through to the factory boiler room to sound a second alarm for additional men and apparatus.

As our department is entirely volunteer, we have found this plan saved considerable time for the men and has proven quite satisfactory during the past three years.

V. M. Burdick, Chief, Windsor, Conn.: As our department is entirely volunteer, no apparatus is to roll without an open alarm. Fire calls are received by telephone operator who in turn operates the master alarm box of our coding air whistle. We use numbers (for phantom boxes) covering districts. In the sparsely settled districts the actual location is obtained from the telephone operator.

Richard A. Weaver, Chief, E. Rutherford, N. J.: Fire calls by telephone are handled through police headquarters where a transmitter is located for sending out alarms over the regular fire alarm system, ringing the number of the box nearest the fire.

Alarms from central stations are handled by pulling alarm box which puts into action both a bell and a whistle. We also have available a hand operated whistle at one of our large factory establishments which code the number of the box.

Louis Bausch, Chief, Newark, Ohio: As we are without street fire alarm boxes, practically all fire calls are received by telephone. Our telephone system is automatic and the fire call 1-1-5. The operator upon receiving a call interprets it and repeats it to headquarters station. If the fire is in central district, an imaginary box number is sounded by manual transmitter and large tower bell. This same alarm is received in our four district stations by combination gong and indicator, and the district company that fills in according to running card is on its way. If the alarm is in one of our four district station areas, the man taking call at headquarters immediately has alarm transmitted by phone to that particular district company. District station immediately upon receipt of alarm, sound same on house alarm box which notifies all stations over interconnected fire alarm circuit.

Any calls answered without use of district alarm system are cared for by notifying all companies not affected that one company is out on silent call. These same companies are notified of the return of the "out company" to its quarters.

C. E. Willert, Chief, Mt. Clements, Mich.: All still alarms are handled by telephone, officer in charge ordering type of apparatus to respond. As we have but one fire station, all calls are transmitted either by telephone or fire alarm system and received at this station.

L. R. Morris, Chief, Ames, Iowa: As we have no fire alarm system, practically all calls are handled by telephone. Upon learning the nature of the fire, decision is made as to apparatus and men to respond thereto.

B. W. Norton, Chief, Bisbee, Ariz.: Telephone or still alarms are handled either by pulling the nearest box or by use of phone. Alarms received from central stations are sent out by phone and box over transmitter.

Balloon Tires Used on Fire Apparatus

Apparatus recently delivered to Winona, Minn., has been equipped with 9 x 20 Lee truck and bus balloon tires. The apparatus is of Pirsch make.

Urges New Station for Indianapolis.—A civic organization in Indianapolis, Ind., is urging the construction of a fire station to take the place of one said to be in delapidated condition.

FIRE DEPARTMENT ACTIVITIES

Harmon, N. Y., May Buy Apparatus—Harmon, N. Y., is considering the purchase of fire apparatus.

Danville, Cal., Wants Apparatus—Danville, Cal., is considering means to finance the purchase of fire apparatus.

Corona, Cal., Rejects Bids—All bids for fire equipment received by Corona, Cal., have been rejected.

Another Minister Appointed Fire Chief—Rev. A. G. Webbeking is chief of the Westgate, Ia., fire department.

Audubon, Ia., May Buy Apparatus—Audubon, Ia., is considering the purchase of additional fire apparatus.

Princeton, Ky., to Have Pumper—Princeton, Ky., is to purchase a 500-gallon pumper.

Apparatus Delivered to Elmsford, N. Y.—An Ahrens-Fox city service truck has been delivered to Elmsford, N. Y.

Freehold, N. J., Orders Pumper—Freehold, N. J., has ordered a Mack pumper to be delivered some time in April.

Fire Station Opened in Pelham, N. Y.—New fire department quarters were opened in Pelham Manor, N. Y.

Secaucus, N. J., Wants Fire Station—A petition was presented for the erection of a new fire station in Secaucus, N. J.

Aberdeen, Wash., to Buy Car for Chief—Aberdeen, Wash., is to buy a new car for the head of the Fire Department.

Apparatus Delivered to Grundy Center, Ia.—A 500-gallon Pirsch pumper has been delivered to Grundy Center, Ia.

Ricketts, Ia., May Buy Apparatus.—Funds are being raised in Ricketts, Ia., for the purchase of fire apparatus.

Pumper Delivered to Ft. Dodge, Ia.—Fort Dodge, Ia., has formally accepted its new 600-gallon Seagrave pumper.

Hagerstown, Md., to Buy Ladder Truck—Hagerstown, Md., is to buy a ladder truck to replace one that has been in service since 1914.

Delphos, O., to Open Apparatus Bids.—Delphos, Ohio, is son to open bids for new fire apparatus estimated to cost $14,000.

Appleton, Wis., to Buy Apparatus.—Farmers of Appleton, Wis., have organized for the purchase of a small chemical car, fitted with a pump.

Monterey Park, Cal., May Buy Pumper.—Included in the 1930 budget of Monterey Park, Cal., is $6,000 for a new pumper.

Runnemede, N. J., Considers New House.—The Chamber of Commerce of Runnemede, N. J., is discussing the erection of a fire house on Black Horse pike.

London, O., Wants New Pumper.—A movement has been started in London, Ohio, for the purchase of a 1,000-gallon pumper.

Pumper Delivered to New Sharon, Ia.—A 300-gallon Boyer triple combination pumper mounted on a Ford chassis has been delivered to New Sharon, Ia.

Farmington, Mass., May Buy Chemical—The township of Farmington, Mass., is considering the purchase of a Ford chassis fitted with three forty-gallon chemical tanks.

Woodbridge, Mass., Opposes Fire Alarm—Opposition has developed in Woodbridge, N. J., on the plan to spend $30,000 for a fire alarm system.

Kirkland, Wash., Wants New Apparatus—Funds are being raised in Kirkland, Wash., for the purchase of new fire apparatus.

Plans Approved for Bristol Station—Plans have been approved for a new fire house to be constructed in Bristol, Conn. It is expected that work will be started soon.

Apparatus Delivered to New Sharon, Ia.—Boyer fire apparatus has been delivered to New Sharon, Ia. The purchase was financed by the sales of shares.

Kingsley, Ia., Buys Fire Apparatus—Kingsley, Ia., in cooperation with farmers of the section, have purchased a Pirsch 600-gallon pumper, equipped with a 40-gallon chemical tank.

Normal to Have Another Fire Station—Normal, Tenn., is to get the second of five contemplated fire stations. Hydrants are being installed in various sections where there are water mains.

Cincinnati to Erect Bungalow Station—A new fire house of bungalow design will be erected in Cincinnati, Ohio. It is the result of action brought against the city to enjoin the use of certain property for a fire station.

Deck Guns Mounted on Boston Pumpers—New Morse deck guns with a capacity of 1,100 gallons a minute have been mounted on pumpers of the Boston Fire Department which are used in the high pressure district of the city.

Against Standardization of Apparatus—Some opposition has developed in Hartford, Conn., to the plan to standardize fire apparatus. It is believed to be a bad precedent as it excludes competition, and assures the business to one company.

Rochester, Minn., to Have Fire House—Plans have been completed for a new fire station to be erected in Rochester, Minn. As far as possible, equipment from the present house will be salvaged.

St. Paul to Erect Fire Station—Contracts have been awarded for the construction of a fire station in St. Paul, Minn., to house Engine No. 5 and Truck No. 3. The house will cost $32,000.

Pueblo, Colo., to Have Squad Car.—A squad car has been authorized for Pueblo, Col. It will be equipped with stretchers, first-aid paraphernalia, inhalators, and light chemical apparatus.

Odebolt, Ia., to Buy Apparatus.—The town of Odebolt, Ia., in co-operation with the farmers of the section, are to purchase fire apparatus to cost about $8,000. The farmers will pay half of the purchase price.

Newton, Ia., Department Reorganized.—The fire department of Newton, Ia., now consists of four regular full-time firemen and ten volunteer firemen. For the present, no more volunteers will be added.

Ft. Worth, Tex., Completes Station Plans.—Plans and specifications have been completed for the construction of a new central fire station and fire alarm central in Fort Wortn, Tex. The building will cost $275,000.

Plans Made for Four-County Convention—Committees are busy planning for the convention of the Four-County Firemen's Association to be held in Easton Pa., June 20 to 21. About five hundred persons are expected to attend.

Newport, R. I., to Improve Department—Following a disastrous fire in Newport, R. I., plans are being made to improve the fire department and to standardize the fire hose threads.

Mayfield, Ky., to Have Standard Thread—All fire hydrant and hose coupling threads in Mayfield, Ky., are to be rechased to conform to the National standard specifications. The work is being done with the assistance of the Kentucky Actuarial Bureau.

Detroit to Order More Salvage Covers—Acting on the recommendations of Chief Stephen J. DeMay of Detroit, the city purchased two hundred salvage covers. Each cover weighs thirty-eight pounds and measures twelve by eighteen feet. They cost approximately $15.20 each.

Salt Lake City to Have Rescue Car—A special car to be used for rescue work will be purchased by Salt Lake City, Utah, and fitted with the necessary tools and appliances. A recent accident in the city demonstrated the need for such apparatus.

Site Requested for Detroit Fire Boat—The Fire Department of Detroit, Mich., has asked for permission to quarter permanently its fire boat at the foot of property now owned by the Department of Public Works, and also to erect a two-story brick station on this property.

Detroit Starts Work on Fire School.—Detroit, Mich., is to construct a building five stories high to be used for a training school. It is expected to have the building completed some time after June. At present firemen are trained with the aid of a drill tower.

New Stations Urged for San Diego—Chief Louis Almgren, in his annual report, recommends the construction of new fire stations in San Diego, Cal. The city now has twenty fire houses, and the Chief lists as antiquated and unsafe, Stations 4, 5, 10 and 13. The purchase of apparatus is also recommended.

Paterson Chief Asks For Drill Tower.—Chief Thomas L. Coye, of Paterson, N. J., in his annual report has asked for the construction of a new drill tower where all companies could hold periodic drills. He also asked for fourteen additional men to form a new truck company in the Peoples Park section.

PROPOSED IMPROVEMENTS

Peekskill, N. Y.—Village officials discussing establishing a fire station on Highland Ave., according to reports.

Lander, Wyo.—Volunteer Fire Department to raise funds for purchase of new equipment.

Wenham, Mass.—An appropriation of $4,600 was voted for purchase of new pumper for fire department at recent annual town meeting, according to reports.

Sandwich, Mass. — Reports state $9,000 was voted for purchase of pumper and hose for the fire department. (Previous reference Feb. 25)

Plainville, Mass.—At annual town meeting sum of $5,600 was appropriated for purchase of new ladder truck for fire department, according to reports. (Previous reference Feb. 19)

Albuquerque, N. Mex. — National Board of Underwriters recommended erection of two new fire stations, better headquarters and equipment for fire alarm system and immediate installation of fire alarm boxes. Fred Russell, Fire Chief.

Harrisonburg, Va.—Company No. 1 of Fire Dept. to raise funds for purchase of new piece of apparatus to be used for rural fire protection.

Madison, Wis.—Resolution was introduced at recent meeting of council for erection of a new fire station in the 7th ward. John Lahm, Chief of Fire Dept.

Housatonic, Mass.—New England Insurance Exchange, recommended the organization of a permanent fire department; purchase of a pumper equipped with chemical or water tank, installation of additional fire hydrants, erection of fire station and that fire department be equipped with at least 2,000 ft. 2½-inch fire hose.

Tenders for Aerial Ladder Truck

CITY OF EDMONTON, ALBERTA, CANADA

Bids received Tuesday, April 15, 1930

Sealed Tenders, registered and clearly marked on the outside, "Tenders for Aerial Ladder" will be received by the undersigned up to 12 o'clock noon, Tuesday, 15th April, 1930, for the supply of One 85' Aerial Ladder with Water Tower. Further particulars may be obtained on application to the Fire Chief. The City reserves the right to reject any or all Tenders.

J. M. Douglas, Mayor,
D. Mitchell, Commissioner.
301 Civic Block,
Edmonton, Alberta,
3-19 Canada.

CONVENTION DATES

March 19—WESTCHESTER COUNTY FIRE CHIEF'S EMERGENCY PLAN. Regular Meeting, Fire Headquarters, Greenwich, Conn. Secretary-Treasurer Lieutenant E. Riviere, Larchmont, N. Y.

March 28—NATIONAL FIRE WASTE COUNCIL. Spring Meeting, Headquarters of Chamber of Commerce of the United States, at 10 a.m. Address, T. F. Cunneen, Manager, Insurance Dept., Chamber of Commerce of the U. S., Washington, D. C.

April 7-9—ARIZONA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention. President, Charles C. Parks, Yuma, Ariz.

April 7-10—FLORIDA STATE FIREMEN'S ASSOCIATION. 5th Annual Convention, Vero Beach, Fla. Secretary, F. C. Pfaender, Winter Haven, Fla. Secretary, Local Convention Committee, E. G. Thatcher, Vero Beach.

April 14-16—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 3rd Annual Convention, Oklahoma City, Okla. Secretary-Treasurer, Chief Tom Lyle, Okmulgee, Okla.

May 12, week of—NATIONAL FIRE PROTECTION ASSOCIATION. 34th Annual Meeting, Atlantic City, N. J. 1931 Convention probably to be held in Toronto, Can. Managing Director, Franklin H. Wentworth, 60 Batterymarch St., Boston, Mass.

May 14—DEL-MAR-VA. VOLUNTEER FIREMEN'S ASSOCIATION. 1st Annual Convention, Cambridge, Md. Secretary, J. Emory Parks, Cambridge, Md.

May 19-23—KANSAS STATE ASSOCIATION OF FIRE CHIEFS, STATE FIREMEN'S ASSOCIATION and FIRE SCHOOL. Respectively, 14th and 43d Annual Convention and 2nd Annual Fire School, Salina, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan. Secretary, Firemen's Short Course Committee, E. J. Stewart, Kansas Insp. Bureau, 701 Jackson St., Topeka, Kan.

June—EASTERN ASSOCIATION OF FIRE CHIEFS. 3rd Annual Convention, Baltimore, Md. (Exact date to be decided later.)

June 24—OKLAHOMA STATE FIREMEN'S ASSOCIATION. 36th Annual Convention, Tulsa, Okla. Secretary-Treasurer, Charles Slemp, 820 East 19th St., Oklahoma City, Okla.

June 2-6—AMERICAN WATER WORKS ASSOCIATION. 50th Annual Convention, Hotel Jefferson, St. Louis, Mo. Secretary, Beekman C. Little, Rochester, N. Y. Offices of the Association, 29 West 39th Street, New York City.

June 4-6—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 8th Annual Convention (Combined with Firemen's Short Course), Deming, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

June 9-11—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 25th Annual Convention, Beaufort, S. C. Secretary, R. S. Hood, Sumter, S. C.

June 10-11—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 58th Annual Convention, Excelsior, Minn. Secretary, Chief Fred Pfaender, New Ulm, Minn.

June 10-12—OHIO FIRE CHIEF'S ASSOCIATION. 13th Annual Convention, Portsmouth, Ohio. Secretary, Chief Philip J. Hardy, Fire Department, Youngstown Sheet and Tube Company.

June 11-13—MARYLAND STATE FIREMEN'S ASSOCIATION. 38th Annual Convention, Lord Baltimore Hotel, Baltimore, Md. Secretary, George R. Lindsay, Haverstown Md.

June 13-14—DELAWARE COUNTY FIREMEN'S ASSOCIATION. 24th Annual Convention and Parade, Linwood, Pa. Financial Secretary, William E. Wunderlich, Lansdowne, Pa.

June 13-14—DAUPHIN COUNTY FIREMEN'S ASSOCIATION. 12th Annual Convention, Steelton, Pa.

June 20-21—FOUR COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Easton, Pa.

June 24-27—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 8th Annual Convention, Hotel Berwick, Rutland, Vt. Meetings, Odd Fellows' Hall; Exhibits, Armory, Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibits, Chief Daniel B. Tierney, Arlington, Mass.; Traffic Manager, George F. Cobb, Boston.

July 8-11—MICHIGAN STATE FIREMEN'S ASSOCIATION. 56th Annual Convention and Fire College, South Haven, Mich. Secretary-Treasurer, H. L. Williams, Ludington, Mich.

July 9-10—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 10th Annual Convention, Georgetown, Sussex County, Del. Secretary, Sam H. Carson, Dover, Del.

July 22-23—WESTERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 30th Annual Convention, Rochester, N. Y. Secretary, Henry A. Clark, Batavia, N. Y.

July 29-31—INDIANA FIREMEN'S ASSOCIATION. 13th Annual Convention, Lafayette, Ind. Secretary, Clem Smith, Fire Headquarters, Terre Haute, Ind.

July 31-Aug. 1-2—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, San Francisco, Cal. Secretary-Treasurer, H. E. Strasser, 1171 Tenth Street, San Diego, Cal.

August—UTAH STATE FIREMEN'S ASSOCIATION. 23rd Annual Convention, Provo City, Utah. (Exact date to be decided later.) Secretary, Charles A. Canning, Midvale, Utah.

Aug. 6-8—WASHINGTON STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Kelso, Wash. Secretary, H. S. Jenkins, Bellingham, Wash.

Aug. 12-15—WYOMING STATE FIREMEN'S ASSOCIATION. 4th Annual Convention and Tournament, Caspar, Wyo. Secretary, Chief Justin H. Patrick, Laramie, Wyo.

Aug. 19-22—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 58th Annual Convention, Nyack, N. C. Secretary, Fred A. Davis, Drawer X, Fort Edward, N. Y.

Aug. 26-29—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 37th Annual Convention, Oakland, Cal. Secretary, Jay W. Stevens, 343 Sansome St., San Francisco, Cal.

Aug. 27-29—VIRGINIA STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Phoebus, Va. Secretary, E. K. Landis, Pulaski, Va.

Sept. 2-4—KENTUCKY FIREMEN'S ASSOCIATION. 11th Annual Convention, Paducah, Ky. Secretary, Capt. S. G. Render, 940 Starks Bldg., Louisville, Ky.

Sept. 2-5—DOMINION ASSOCIATION OF FIRE CHIEFS. 22nd Annual Convention, Port Arthur, Ont. Secretary, Chief James Armstrong, Kingston, Ont., Can.

Sept. 9-11—ILLINOIS FIREMEN'S ASSOCIATION. 43rd Annual Convention, Peoria, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill. Exhibits, Chief Albert Herring, Fire Department, Murphysboro, Ill.

Sept. 9-12—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 58th Annual Convention, Hotel Royal Alexandra, Winnipeg, Man., Canada. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Charles Alt, Fire Headquarters, St. Louis, Mo.

Sept. 16-17—IOWA FIREMEN'S ASSOCIATION. 53rd Annual Convention, Boone, Ia. Secretary, Paul Soener, Independence, Ia.

Sept. 24-25—MISSOURI STATE FIREMEN'S ASSOCIATION. Annual Convention, Trenton, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis.

Oct. 7-9—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 51st Annual Convention, Hotel Americus, Allentown, Pa. Secretary, Charles E. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 21-23—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 49th Annual Convention (2d in year), Scottsbluff, Neb. Secretary-Treasurer, H. A. Webbert, Kearney, Neb.

CORRESPONDENCE

Course in Fire Protection Engineering

To the Editor:

In the "Questions and Answers" department of FIRE ENGINEERING dated February 19, 1930, is the question: "Will you please inform me as to what schools give a course in fire protection engineering?" The answer to the question lists several colleges and universities, but does not mention Armour Institute of Technology of Chicago.

The Armour Course in Fire Protection Engineering was established in 1903. It was then, and is now the only full four-year course in Fire Protection Engineering leading to a degree. The professional laboratory work of the department is carried on at Underwriters' Laboratories. The number of students registered for the present school year is 115. Of these, approximately 100 hold four-year scholarships awarded by the stock fire insurance companies.

Very truly yours,
JOSEPH B. FINNEGAN,
Professor of Fire Protection Engineering.

Officer Bitten by Rat at Fire—Captain Arthur Swift of Boston, Mass., was bitten by a rat at a recent fire in a four-story brick building in the Back Bay section of the city.

Delphos, O., to Buy Pumper—Bids have been advertised for a 750-gallon pumper to be delivered to Delphos, Ohio. The city voted $14,000 in bonds last year for the purchase of apparatus.

Slight Chance of New Apparatus—According to the supervisor of Clinton, Mich., there appears to be but a slight chance for the purchase of new apparatus. A petition is being circulated to win support to the plan of buying apparatus. A faction of farmers is opposed to the scheme.

Every Chief and Every Fireman . . . .

should have one of these

NEW AUTO PLATES

WHEN in traffic or responding to call avoid annoying delays.

Easily attached to your car—these plates get you through traffic faster.

They are made up with your own lettering and your personal insignia. They come either in gold or nickel plate—$2.50 for the nickel finish or $3.75 for the gold. Postage prepaid.

Actual Size

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C. G. BRAXMAR CO., 242 West 55th Street, New York

THROWS 600-FOOT BEAM (⅛ MILE)

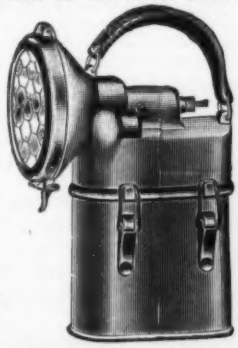
THE FAVORITE for the Fire Fighter

A Powerful Portable Electric Searchlight

The EXCELLIGHT is always ready, safe, powerful, economical and simple. It is moisture and waterproof, which eliminates short circuits and greatly increases the life of the batteries.

The EXCELLIGHT is indispensable, especially around places where inflammable materials are stored or manufactured.

With ordinary use the batteries will last for many months and can be replaced at small cost. Batteries are standard.



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AGA Lamps for Fire Apparatus

HEADLIGHTS — SEARCHLIGHTS
SPOTLIGHTS — TAIL-LIGHTS

Supplied in All Finishes—Including Chromium Plate

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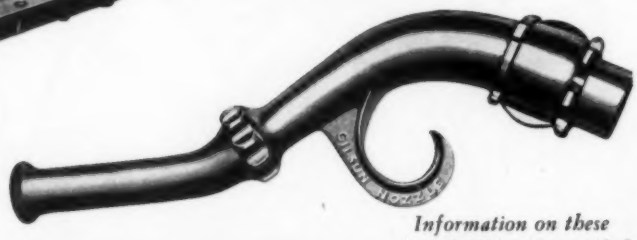

Information on these
Absolutely Essential Fire Fighting Tools
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WATER CURTAIN

Throws a 75-ft. Sheet of Water
For cooling Gasoline and Oil Tanks.
For the Fireman to advance behind.
For covering Lumber Piles and Walls.

BENT NOZZLE

It fights Fire in Attics, Cellars and Ship Holds, directed from a safe position. Works as a straight nozzle, and will round a corner so that the Fireman may protect himself.

Manufactured by **LOVELL-DRESSEL CO., Inc.** *Arlington, N. J.*

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(Reg. U. S. Pat. Off.)
FIRE HYDRANTS
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DOMESTIC
and
HIGH PRESSURE
Service

NOTE—
The positive waste valve.
All operating threads are dry, being above the stuffing-box.
No toggles, no small, quick-wearing parts.
All moving parts are bronze or bronze-bushed.
The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

An easily installed
EXTENSION SECTION
readily adapts them to new grade.

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THE BODY GUARD MANUFACTURING CO.
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The New Eastman Deluge Gun

The New Eastman Deluge Gun is a Portable Turret Pipe that can be used on the truck or ground, as may be desired. The stream can be operated in any direction by one man.

Samuel Eastman Co.
Concord, N. H.

Can Lumber Be Made Fire Resistant?

(*Continued from page 230*)

inches; others are practically impenetrable. The pines, especially sugar pine, white pine and short-leaf yellow pine, are particularly receptive to Firesafe treatment; also poplar, basswood, birch and soft-textured red oak; while white oak and the fast-growing red oak of the South are practically impenetrable.

Then there is another group of difficult woods in the hemlocks and firs. In these occur dense, shell-like sections, nonporous and impenetrable, which effectually interrupt the flow of solution and partition off the softer parts of the lumber. In these woods a half-inch penetration is all that can be expected.

Generally speaking, the following commercial woods can be treated, and are arranged in the order of their receptivity:

First Group—Sugar pine, balsa, genuine white pine, pondosa, Idaho pine, California white pine, short and long-leaf yellow pine, loblolly, North Carolina pine, chestnut, poplar, basswood, birch, maple, beech, ash, elm, soft-textured red oak.

Second Group—Eastern spruce, Western red cedar, white cedar, Sitka spruce, mahogany, Southern red oak, balsam, cypress walnut redwood.

Third Group—Fir hemlock, pitchy pine, teak, aromatic red cedar.

Fourth Group—White oak, rapid-growing Southern red oak, lignum-vitae, ebony, cocobola, hickory. (To date, these have not been successfully treated.)

General Characteristics

A knowledge of the characteristics of firesafe wood is extremely necessary before a proper understanding of its qualities can be had. Considering first its negative features, although it will effectually resist combustion it cannot be expected to resist charring. Continued exposure to heat which would ordinarily cause wood to burn will eventually produce slow decomposition (charring). Further, as nature never repeats herself, no two pieces of wood are alike, and obviously some pieces are more receptive to the fireproofing chemicals than others. To impregnate a batch of lumber with enough chemicals so that every splinter in the load is fully treated is possible, would mean heavy oversaturation in some parts. A commercial process is one in which the general mass of the lumber is rendered non-inflammable and an occasional spot or piece of poorly treated stock is tolerated, providing only that such spots or streaks do not occur in sufficient number to materially impair the general efficiency of the product. All tests must be representative of the average condition of the lumber and must give an exact indication of what may be expected under actual fire conditions.

A positive fact not previously well understood is that while a piece of "fireproof" wood may be ignited by a match (low temperature), the same piece will show excellent results at very high temperatures due to the fact that only at relatively high temperatures do all the chemicals begin to function.

Every Cell a Fire Extinguisher

Another fact of paramount importance is that every cell in a "fireproof" board is a diminutive fire extinguisher, for when heated it gives off fire-extinguishing gas. The larger the mass of "fireproof" wood heated, the more noticeable is the result. A "fireproof" wood floor gives off this gas at the base of a fire, the most effective point.

The strength of partially treated stock remains practically the same as before treatment, but a loss of 10 to 20 per cent must be expected on fully impregnated lumber. The treated lumber is, however, flexible, soft-textured and resilient, any loss in strength being due only to a partial and sporadic disarrangement of the cell structure occasioned by the repeated changes in pressures, rapid variations in temperature, the transitions from dry to wet state, and vice versa.

Stress has been placed on the high merit of wood so treated as a non-conductor of heat, although in general, wood is considered to be a good non-conductor in this respect. Lumber that has been subjected to the treatment described, when heated above the flash point transmits the heat very slowly. So much so, in fact, that applying 1700 deg. Fahr. to one side of a piece of ¼-in. thick firesafe lumber for a period of five minutes raises the temperature of the opposite side very slightly. In actual tests firesafe wood doors have withstood the direct attack of a severe fire five times as long as a standard Kalamein door and four times as long as a solid steel door. This means vastly greater protection. In addition to this it must be remembered that a treated wood door is easy to fit, meaning that less smoke will escape through the cracks, while it is very difficult to make Kalamein doors smoketight.

In electrical resistance firesafe wood is low.

Abrasive Qualities

Firesafe lumber is much easier to manufacture than any other "fireproof" wood. It may be easily planed, sawed and sandpapered. On machine molder knives, however, it means more frequent resharpening than on untreated stock, due principally to the fact that there is 20 per cent more mass to cut. High-speed machines and hard-steel knives which may be resharpened while in operation are the answers to this problem.

Storage and Mixing Tanks Used in Treatment

The average full treatment increases the dry weight of wood about 20 per cent; the partial treatment varying proportionately.

Cost of Lumber

The question of cost cannot be definitely answered, as the cost varies with production, species and sizes of lumber treated. In the average suburban residence the cost of making all lumber and shingles Firesafe would be not over 5 per cent of the total cost of the house. To use Firesafe trim, floors, doors, etc., in a "fireproof" city office building would increase the cost of the building less than 1½ per cent. To build a mill or factory building with Firesafe wood beams, floors, partitions and roof would effect a saving over steel and concrete construction in these items of more than 25 per cent—and the building could be erected much more quickly regardless of weather conditions and would be superior in many ways. Firesafe wood partitions are cheaper, better looking and far more fire-resistant than steel partitions.

Flooring

Many millions of feet of "fireproof" oak flooring have been used in New York in the last decade or so, and most of these millions have been "bad advertising" for "fireproofed" wood, for the very simple reason that the flooring was treated after manufacture instead of before, as it is now being done. The warping, too tight matching, discoloration and moisture-attracting features of these earlier treatments are a thing of the past. Already a large treating plant, together with a flooring factory, has started operations in the world-renowned, soft-textured oak belt of the Appalachian Mountains, and Firesafe oak flooring of all kinds, treated before manufacture, is now being produced. Builders, architects and owners can now have all the beauty of oak parquet floors, thoroughly Firesafe, natural in color, perfectly milled, at lower cost than "fireproof" oak floors ever were procured for in the past.

Shingles

The most difficult of all fireproofing jobs is the treatment

of wood shingles. Exposed to the elements for many years, "face up," these thin pieces of soft wood must be perfectly dampsafe if the fireproofing chemicals are to retain their efficiency. Not only are the chemical problems large, but the question of coloring and the mechanics of impregnation and drying are individual problems of this one product.

Suffice it to say that although the many tests now in progress are still incomplete and conclusive data are not yet available, there is sufficient evidence to warrant the opinion that firesafe shingles are an assured success. After six months of exposure on a roof during which period they were hosed for twenty minutes each day, the shingles show the original fire-resistance. Several laboratories are now running Weatherometer tests, and in a few months definite results will be known.

The Class "A" fire test of the Underwriters' Laboratories is illustrated. Time and again firesafe shingles have withstood the grueling punishment of this test, with no further damage than a charred area equal to the size of the burning brand.

Much success has been attained in the firesafe treatment of both insulating and panel boards. This is a specialty process however and must be done during regular manufacture of the boards—a mechanical problem upon which our engineers are now working. The chemical research is practically complete; firesafe boards retaining full insulating values have been made; and this field, having large potentialities, is about to be opened.

It is not feasible to firesafe standards panels in board form due to the fact that the interstices of the board are filled, causing a diminution of its insulating efficiency. Further, the problem of drying without warping presents an almost insurmountable obstacle.

In addition to those uses and applications mentioned, the following should be noted:

Scaffolding, sidewalk bridges, grandstands, stage scenery, motion picture studio equipment, airplanes, launches, ships, barracks, storehouses, residences, apartment houses, factories, garages, elevated stations, subway construction, temporary and permanent work in stores, hotels, expositions, furniture, showcases, vaults, storage bins, lockers and—a most important use—seashore and mountain hotels and cottages.

Conclusion

The development of the Firesafe process has brought to lumber, that "most likable" building material, what has come to other products at earlier stages in their use.

Though tardy, this development is yet in time. It has been a serious work undertaken by responsible interests on a large scale. It has already reached commercial proportions and is growing rapidly. The laboratories are still being maintained and, naturally, further and continued improvement is to be expected.

Extinguishment Not Only Duty

(Continued from page 245)

and mercantile establishments. I am sure that their efforts will be well repaid.

Place of Building Inspection in Work

Building inspection, too, is of genuine importance in pointing out fire hazards to merchants and teaching officers and others the many fire hazards in buildings. Besides, it familiarizes the firemen with buildings and stocks carried by firms in their respective districts, which, oftentimes proves to be valuable knowledge. It is a known fact that many a fireman's life has been saved by a timely warning of an officer familiar with a burning building because of such previous inspection.

Proper inspection also serves to convince the merchant that the department is working in his interests, and many sprinkler systems have been installed in buildings through the untiring efforts of fire inspectors who realize the wonderful advantages of such equipment to the business man.

Knowledge of First Aid Essential

First aid, as now taken up by the fire departments, is an essential study and a great aid to the communities served. It has been said by the Red Cross that 95% of the deaths from accidents are caused by improper first aid. In a great many cases of accidents in which firemen are injured, it has been found that the untrained person, with every effort to do good, generally does harm instead. As one doctor has put it, at all times proper first aid is half the battle in picking up patients and getting them to hospitals regardless of the nature of their injuries, and especially so in the case of fractures.

In rendering first aid, the inhalator proves to be one of the greatest inventions of modern times, but to be properly used in resuscitation it must be handled by those skilled in its application. Such skill in the effective use of this wonderful instrument is developed only through long and hard training. There are cases on record where people drowned, and under water for some little time were revived and soon restored to perfect health through this wonderful method. It is essential, too, that the fireman be familiar with the oxy-acetylene torches used in cutting steel bars, plates, etc., when entering buildings otherwise inaccessible. Equipment for such purposes is maintained by practically all modern fire departments of today.

It should be your zeal to train yourself to serve your city in a scientific and proficient way, for, centainly, you recognize *that* as your duty to the people who have put their trust and confidence in you for the protection of their lives and property.

(From a paper read before the annual convention of the Illinois Firemen's Association.)

OVER-INSURANCE PROBLEMS STUDIED BY N. Y. MAYORS

Conference of Mayors Recommends Close Cooperation Between Insurance Agents and Fire Chiefs—Incendiaries Are Tempted

AS a result of the conference of Mayors and other Municipal Officials of the State of New York, a committee was appointed to give consideration to the problem of over-insurance and its relation to fires. The committee consisted of Chief Michael J. Fleming, Albany, N.Y., Chief A. R. Maxon, Gloversville, N. Y., and representatives of both the agents and the underwriters' interests. The group reported as follows:

"The practice of over-insuring property is not a new one. its evil effects have been discussed by municipal fire officials and insurance companies for several years. A number of suggestions to stop the practice have been made and discussed, but so far as we know, ours is the first concerted effort in any state to devise and put nto effect some practical remedy.

"We are convinced that the practice of over-insuring property, thereby making it possible for owners to collect amounts out of proportion to the value of the property thus protected, is one of the real causes of incendiary fires. This belief is based on the opinions and experiences of chiefs of fire departments of a large number of American municipalities. In our effort to devise a way to stop over-insurance and thus remove the temptation to commit an unlawful act, we studied the problem from two angles, that of the fire fighting officials and that of the insurance companies. As a result we believe that progress in the solution of the problem can be made if the insurance companies and their local agents will cooperate closely with local fire departments and if fire chiefs have conferred upon them power to procure necessary information so that they may seek the help of the insurers whenever they have reason to suspect the insured.

"Five suggested remedies were carefully considerad by the committee. Two were approved at this time. These are as follows:

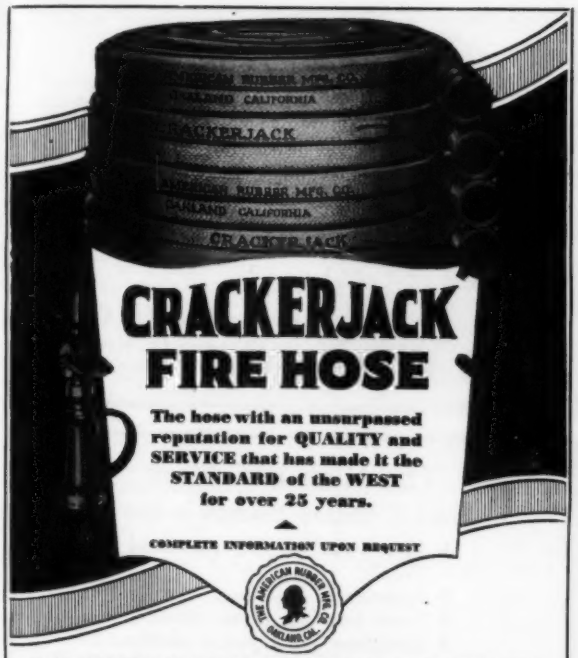
"1. We recommend that all agents and brokers in each municipality keep the fire chief informed about such lines of insurance as he shall request, and cooperate in any other way that either he or the chief of police may request.

"2. We recommend that at this session of the State Legislature a law be enacted requiring agents, brokers and owners of insured property to reveal to a fire or police chief any information about insurance he may request, and that failure to comply with such request shall be a misdemeanor."

New Station Opened in Madison, Wis.—Station No. 6 has been placed in service in Madison, Wis.

Fire Department Resigns in Llano, Tex.—The volunteer fire department that was organized over three years ago in Llano, Tex., has sent notice of its resignation. No reason has been given for this action. Apparatus was purchased and a new station erected two years ago.

Fire Commission Urged for Highland Park.—Highland Park, Mich., is considering a proposed charter amendment to appoint a police and fire commission of five men, and to take the affairs of these two departments out of the hands of the mayor and the city council.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FIRE HOSE
The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD of the WEST for over 25 years.
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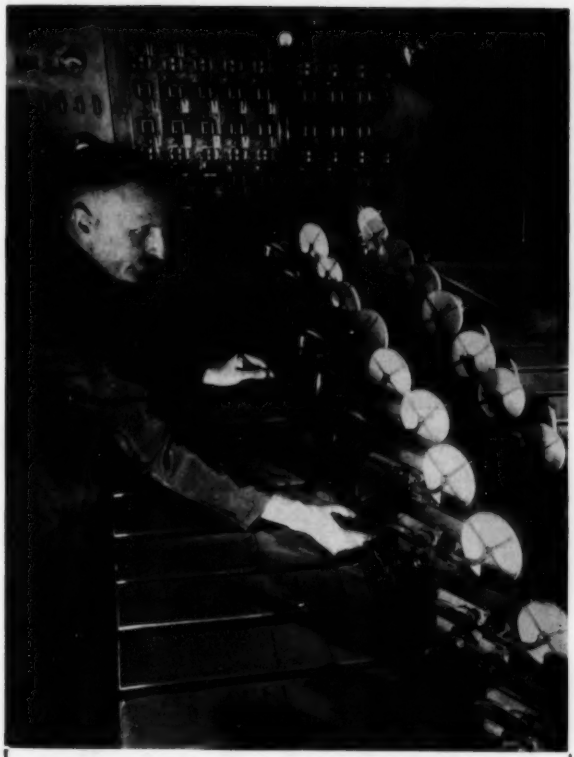

A typical scene in an A. D. T. Central Station where coded fire alarm signals are received and transmitted immediately to the fire department.

Fire Fighting Efficiency

A. D. T. Systems of fire protection and watchman's supervision operate to decrease the fire hazard, and, by providing prompt notification of the exact location of fires, they help to increase the efficiency of your own fire fighting organization.

In 1928, A. D. T.-protected premises were 99.97% immune from fire—convincing evidence of the thoroughness of A. D. T. protection.

A. D. T. Systems are listed as Standard by Underwriters Laboratories. It will pay you to recommend them for every protection requirement.

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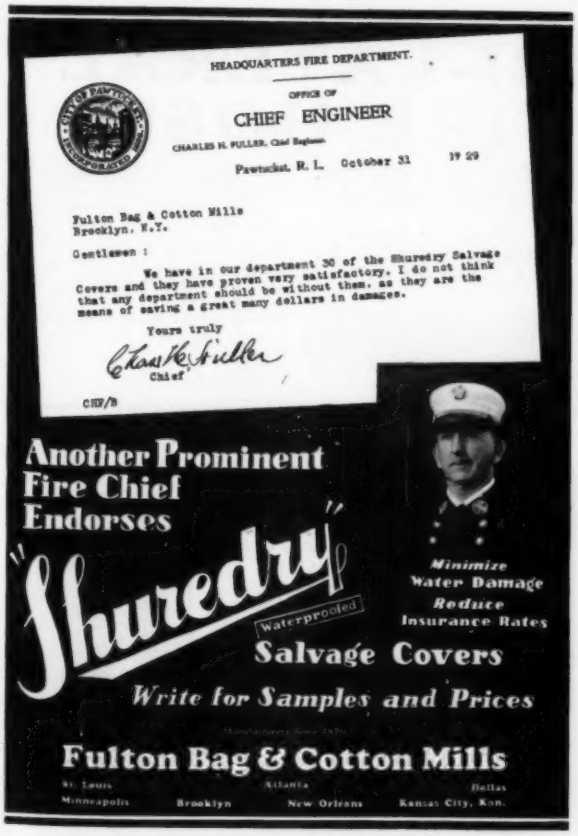
HEADQUARTERS FIRE DEPARTMENT
OFFICE OF
CHIEF ENGINEER
CHARLES H. FULLER, Chief Engineer
Pawtucket, R. I. October 31 19 29
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Brooklyn, N.Y.
Gentlemen:
We have in our department 30 of the Shuredry Salvage Covers and they have proven very satisfactory. I do not think that any department should be without them, as they are the means of saving a great many dollars in damages.
Yours truly
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Another Prominent Fire Chief Endorses
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The **Corey** Fire Hydrants as built by us are the only **Genuine Corey Fire Hydrants** manufactured, and they conform to the standard specifications of the American Water Works Association.

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RENSSELAER VALVE CO.,
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New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Ouality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment

New 43 Edition Catalog on Request

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Fire Alarm Signals
Water Meters
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Union Water Meter Co., Worcester, Mass.
Incorporated 1868

The High Efficiency of HALE Rotary Pumps is due to:

1 The form of the patented Rotor Tooth.
2 Automatic Packing.
3 Four bearing pump shafts.
4 Stainless steel pump shafts.

The design of Hale pumps has been perfected through fifteen years of active experience, and has resulted in a rugged, highly efficient product.

HALE FIRE PUMP CO., INC.
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Manufacturers of Rotary Fire Pumps.

EDDY
Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

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BI-LATERAL FIRE HOSE

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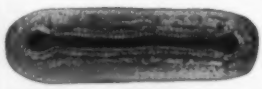


The only change made in constructing the rocker lug coupling is
1. That is must be made of the very highest grade metal composition.
2. Adding a little more of the bronze metal to each side of the pin lug so that the couplings will ride without catching.

If this is not an improvement, why?

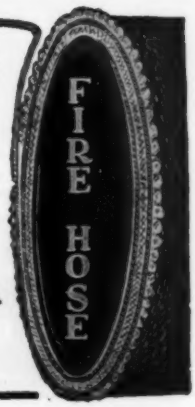
The Bi-Lateral Fire Hose Co. is using the rocker lug coupling as standard equipment because it is better for the hose and makes a fire department more efficient.

Baker Fabric

A mass-woven jacket of exceptional pliability. The rubber lining is reinforced to flatten without breaks or pin holes. Write for details.

MANUFACTURED EXCLUSIVELY BY
HEWITT - GUTTA PERCHA
RUBBER CORPORATION
BUFFALO, N. Y.
(Also makers of single and double jacket hose)

"Territories Available"



Fire Department Important Decisions

(*Continued from page 228*)

or indirectly as a public hall, store, restaurant, or lodging house."

The owner of a laundry building, in which a storeroom was situated, contested the validity of the ordinance on the grounds that it violated the Fourteenth Amendment to the United States Constitution. However, the Court upheld the validity of the law, and said:

"The Fourteenth Amendment of the United States Constitution declaring that no state 'shall deprive any person of life, liberty or property without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws,' undoubtedly intended not only that there should be no arbitrary deprivation of life or liberty, or aribtrary spoilation of property, but that equal protection and security should be given to all under like circumstances in the enjoyment of their personal and civil rights. . . . It is said the police power is very broad and comprehensive, and is exercised to promote the health, comfort, safety and welfare of society. . . . Under it, the conduct of an individual and the use of property may be regulated so as to interfere, to some extent, with the freedom of the one and the enjoyment of the other."

Fire Marshal Not Liable for Damages Resulting From Order to Demolish Fire Hazard Theatre Building

It is well established that a public officer is personally liable to any person whom he unjustifiably damages by application of his public authority.

However, it is important to know that a public officer is not liable for damages effected any person where such injury results from authorized enforcement of legal regulations.

For example, in Simms vs. Liuzza, 123 So. 301, it was disclosed that the Standard Oil Company purchased a lot with a building thereon. It was the purpose of the company making the purchase to erect on the site its main office building. The ancient structure on the property, which was badly in need of repairs, had been operated for a number of years as a hotel under various names by various parties. Pending its demolition to make room for the contemplated improvement the Standard Oil Company leased by an oral agreement its upper floors and a portion of the ground floor. The provisions of the lease were that the tenant would vacate the premises upon 60 days' notice from his lessor.

Under this agreement he operated the building as a cheap hotel or rooming house and was so operating it when the Standard Oil Company sold the property to a man named Liuzza, because the former decided to erect its new building at another location.

Liuzza purchased the property solely for speculative purposes and as soon as the contract of sale was executed began looking around for an acceptable tenant or purchaser. A few weeks later Liuzza was offered $30,000 by the Western Union Company for the building and the lot. Soon afterward the fire marshal examined the building, condemned it as a fire hazard, and ordered it demolished. This order disadvantageously affected the contemplated sale of the property and Liuzza filed suit against all parties, including the fire marshal, for damages, contending that the parties conspired to prevent the sale of the building and lot to the Western Union Company for $30,000.

However, it is important to know that the Court held the fire marshal not liable, saying:

"Our conclusion is that plaintiff has utterly failed to establish his charge that a conspiracy existed among the defendants to dispossess him by demolishing the building, so that it could be delivered to the Western Union Telegraph Company. . . . The fire marshal was vested with power under the law to inspect the building in question for the purpose of determining its condition with respect of its liability to fire, and, if he found such to be the fact, to order the owner to demolish the structure. We do not mean to say that Liuzza, as the owner of the building, could not have appealed to the Courts to revise the order of the fire marshal, if it was arbitrary or unjust. But he recognized that the order was justified, accepted it as such, and acted accordingly."

Property Owner Convicted of Arson

Usually peculiar circumstances surrounding the burning of a building may lead to the conviction of the owner of the crime of arson.

For illustration, in Gamble vs. State, 19 S. W. (2d) 279, it was disclosed that a property owner had insurance on his house and furniture amounting to $4,500. By reason of the location the place had become undesirable as a residence. The house was discovered to be on fire by neighbors, in the middle of the night, and a fire alarm turned in. The fire department responded promptly and found the house burning in three disconnected places. They finally detected an odor of gasoline or kerosene. Subsequent investigation disclosed pieces of partially burnt kindling around one place where the fire was burning.

A search of the house by the fire marshals showed that it had been stripped of a great part of its furnishings of value. The tableware, bed clothing, rugs, curtains and practically all of the wearing apparel had been removed. Some of this was found in a trunk at one of the railroad stations and some was found at the home of a relative in Memphis. No satisfactory explanation was offered as to why all these things had been removed from the house.

In addition to this, the property owner and his wife had taken their baby at the time of the fire to spend the night with a relative.

In view of this evidence, in connection with statements made by the owner of the property, the higher Court promptly upheld the lower Court's conviction.

Property Owner Convicted of Arson by Circumstantial Evidence

On the other hand, the circumstances may be such that a person is justifiably convicted of arson although no direct proof of his guilt is presented.

For instance, in the leading case of State vs. Despain, 278 Pac. 173, a property owner was convicted of the crime of arson. The facts are that the building which the owner was charged with firing was a two-story frame dwelling. The fire was undoubtedly started on a landing in the stairway, six steps up from the bottom of the stairs. The chimney in the kitchen was examined and found to be in good condition without any defect or any trace of fire around it. He had used a stove in the kitchen an hour or two before the fire occurred. He went out to the rear of his premises and remained there, first in an outhouse and then in a nearby garden, where he was working within plain sight of the house at the time the fire occurred. No other person entered the premises during that time; he admitting that if any other person had come upon the premises he would have seen him.

The electric wiring was examined and it was found that the fuses were in good condition without any indication of any wires having been short-circuited or any fire originating around them. The odor of kerosene was very strong at the time all over the house. A newspaper saturated with kerosene was found in the upstairs of the house between the stove pipe coming out through the upstairs floor and the wall. A mattress upstairs had the cover completely torn off and part of the excelsior padding was scattered around the room.

The house was insured against fire for $1,500, making a total insurance on the house and contents of $1,900. The house and lot upon which it was situated was of the value of $1,000. No witnesses testified that the property owner was seen to perform any suspicious act. Also, the property owner denied that he had set fire to the building.

However, the higher Court upheld the lower Court's conviction, saying:

"These and other facts show that the fire was of incendiary origin; that appellant (property owner) was present upon the premises at and immediately before the time of the fire; that no other person was accessible who could have set out the fire; that appellant had a motive for burning the property; thereby the chain of circumstances were complete and tended to establish the guilt of appellant beyond a reasonable doubt, if the jury so believed."

N. Y. Orders Garage Inspections

A general order has been issued to company commanders of the New York Fire Department to cause an inspection of all hazardous conditions and occupancies including garages, oil selling stations, paint and varnish works and similar occupancies located within a radius of two hundred feet of any public school. The officers were directed to state whether or not a permit had been issued for such occupancies. In addition to forwarding a report, the officers are instructed to telephone all highly dangerous conditions.

Deputy officers are instructed to see that company officers comply with a department order issued in 1925 which reads:

"Chief officers in command of fires for which a second alarm has been transmitted shall locate the nearest available telephone and communicate the number of it to the despatcher at the Central Office so that, when necessary, he may communicate with him."

Green Bay Has Combination Chief's Car—Green Bay, Wis., has a combination chief's car and ambulance. The car resembles a roadster but with a longer wheel base. The back part of the car can be opened and a patient placed on the floor.

FALSE ALARMS

DIDN'T WORK

Company 13 defied all superstition. The men formed a club which met once a month in the interests of good fellowship. At the end of one meeting, a fireman was afraid to go home and meet his wife because the meeting did not improve his stability.

"I'll tell you what to do,' said a good friend. "When you get in the house, undress at the foot of the stairs, fold your clothes neatly, then creep quietly up the stairs to your own room."

The two men met in the station the following morning.

"How did you get on?"

"Rotten I did just as you told me. I undressed at the foot of the stairs. I folded my clothes neatly. I crept quietly up the stairs. But when I reached the top, it was the elevated station."

And when we told the Girl Friend that the fire on the S. S. Muenchen was caused by potash, she wanted to know where Perlmutter was.

EXALTED POSITION

A fire hose salesman who was making the rounds of the villages in his territory, shortly after the new village council took office, stopped his car in front of a town hall, and noticing, a man standing on the steps, the salesman said:

"Just keep an eye on my car for a moment, will you? I shan't be long."

The other, very dignified, replied: "Sir, do you know that I am mayor of this town?"

"That doesn't matter. You look honest."

PREPARED

The desk man looked up as one of the boys was preparing to leave.

"Are you going by the jeweler's? Take my watch down and have them fix it by five o'clock sure."

"Gee whiz! Why are you in such a hurry about it?"

"Well, Tom didn't show up today, and the company is having a meeting tonight, and I suppose that I'll have to take the minutes."

An example of implicit faith, devotion and sincerity is the man who, when he comes home, rings the front door bell and then rushes around to see who is coming out the back way.

THE FIREMAN CONFESSES

"Boy, I've had a wonderful day. Early this morning some one turned in a false alarm, and we found three college boys near the box. They said that they had nothing to do with it, but we grabbed them anyway and took them up to the station. I'll bet they get kicked out of school. Then the chimney caught on fire in that big house on Van Hook Street. We chopped a hole in the front door and I smashed two bureaus, broke four chairs and a window and threw three sets of china out the pantry window before they stopped the smoke. Then we ran into a vegetable wagon on the way back and sprayed carrots all over the street. None of this checker playing for me. I've been of real service to the community."

VERSATILE

A representative of a general merchandise house that sold almost everything from A to Z called at the fire hall. Upstairs the chief was seated with his feet on the desk.

"Can I sell you some of the popular magazines for the boys to read?"

"No."

"Can I sell you some good books?"

"No. We have books and magazines in almost every corner of this golblamed fire station."

"Then, chief, I have just the thing you need. Maybe I can interest you in a paper baler?"

It has been noted that Cole Blease read in the Senate choice extracts from a questionable book and his remarks were reprinted in full. It looks like a big year for the *Congressional Record*.

DUE TO WAIT

"What's the idea?" bellowed the policeman to the stalled motorist, in the gentle manner that only a traffic officer knows. "You've been parked here more than an hour."

The motorist, too, was in no gentle humor.

"What's the idea yourself? I can't go ahead until the traffic signal turns green."

"Well, make yourself comfortable for a long wait," said the policeman. "That red light is on a fire alarm box."

Ten nights in a barroom may have been very bad, but nothing like just one hour in a speakeasy.

IT DID

Macgregor strolled around to the fire house attired in his Sunday best. It seemed strange to see him without his uniform. The desk man called:

"Hey, Mack, what's that brown spot on your coat? Gravy?"

"No, they told me at the store that this suit would wear like iron. That's rust."

And when somebody yells "Fire," in Chicago, people don't make for the nearest exit; they duck.

DON'T MENTION IT

The department glee club had volume if nothing else. One member possessed a voice with which he drowned out many of the good qualities of the others. There was a mass protest to the vocalist in charge. And so he went over to the offender and remarked:

"And now I have been asked to say a word to you about your singing——"

"Don't mention it," was the reply, "I am accustomed to the praise—in fact it's a gift."

Paris dressmakers just had to move the skirt in some direction, and it couldn't go higher.

Drawing by "Art" Espey

Reproduction of a Drawing in an Ancient Text Book to Illustrate the Meaning of a "Bucket Brigade."

Your Catalog Page

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WHENEVER you are in the market for new equipment you naturally want to get complete information from all reliable manufacturers before you place the orders for your department.

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You only have to run down the list of equipment and mail in the coupon below with your name and address and the numbers that indicate what you are interested in and we will then have the leading manufacturers of this equipment send you complete information direct—so why not let us help you get what you want? We are glad to be of service. Help yourself.

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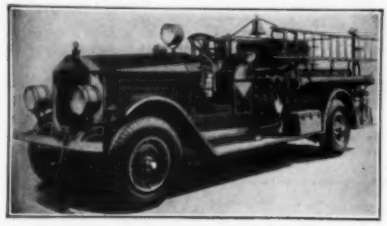

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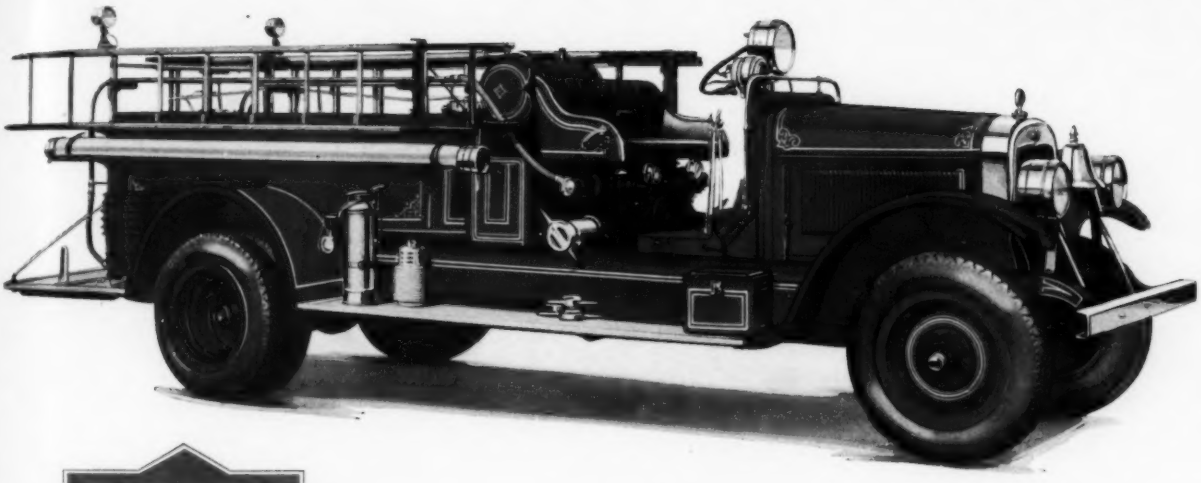

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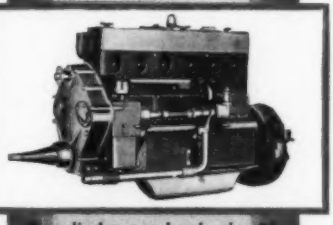

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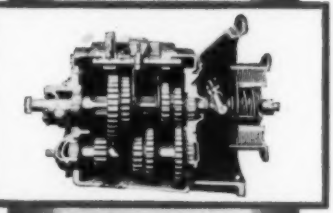

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